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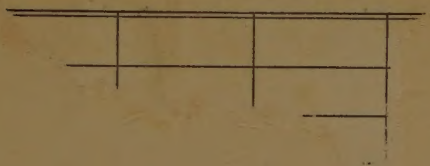

TEACHING IN COLLEGE AND UNIVERSITY

A Survey of the Problems and Literature in Higher Education

TEACHING IN COLLEGE AND UNIVERSITY

A Survey of the Problems and Literature in Higher Education

BY

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PREFACE

In the decade since the late World War numerous educational reorganizations and adjustments have taken place in the field of higher education. This change is not limited to any single type of higher institution; procedures in teacher-training institutions, professional schools, graduate schools, liberal-arts colleges, and junior colleges are being subjected to close scrutiny, careful analysis, and in many instances active investigation and experimentation. The reports of these experiments, investigations, and analyses, together with descriptions of current practice and authoritative discussions, during the past ten years have probably reached a total of two thousand titles. However, such material is scattered widely through the periodical literature, isolated monographs and bulletins, yearbooks, and graduate theses. The writer has attempted through a painstaking bibliographical survey of the field of higher education to locate most of the important work that has been done during the decade, to discover major problems, and to digest, organize, and interpret in an impartial way the available literature.

Where factual data or experimental results are available an effort has been made to present such evidence. In a number of cases it has been necessary to rely on authoritative analyses of the problems under consideration. In few instances has the writer been bold enough to draw final conclusions from the data available; the field is too new and changes take place too rapidly to make such a procedure valid or desirable. The reader of this book will

be a college teacher, administrator, or student in a graduate course who has sufficient maturity to examine the evidence presented and to study any desired amount of the wide range of supplementary references cited; in this way he will formulate his own conclusions rather than have presented to him in predigested form the opinions of a single individual.

The eight chapters of the book cover problems of concern to every college and university teacher, administrator, and student. The first two chapters are largely for purposes of orientation. The first chapter lists in detail sources of information concerning the problems and literature in higher education, while chapter ii is a survey of the present status of colleges, teachers, and students. The next five chapters are arranged in logical sequence and deal with five fundamental problems in learning and teaching, namely, aims, materials, bases of learning, methods, and measurements. The last chapter sums up the reorganizations and adjustments effected and under way, lists current attempts to improve college teaching, and presents a rather detailed discussion of graduate study and research as a means of bringing about further improvement in procedures in higher education. In the appendix are bibliographies of special method, the curriculum, and other problems in twelve subject-matter fields, as well as a miscellaneous group of references on administration and teaching in college and university. In a number of instances the titles of references listed include the term "secondary-school" or "high school;" however, an examination of such studies or discussions will reveal pertinent applications at the college level.

Obviously this book would have been impossible except for the contributions of a large number of careful and conscientious workers in the field. In every instance an effort has been made to give full credit to the author or

agency responsible for a fact stated or an opinion quoted. Specific acknowledgment at this time should be made of the valuable 1929 yearbooks of the National Society of College Teachers of Education and of the Department of Superintendence.

It is the hope of the writer that this book may prove of service to teachers and administrators in general in teacher-training institutions, professional schools, graduate schools, liberal-arts colleges, and junior colleges, and especially to teachers of and graduate students in courses which deal with problems of higher education. An effort has been made to cite all Doctors' theses of the decade in the field of higher education. The supplementary characteristics of this volume and the author's *How to Do Research in Education* for use in thesis-writing groups and graduate seminars will be recognized.

C. V. G.

Oxford, Ohio,
May, 1929.

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TEACHING IN COLLEGE AND UNIVERSITY

Chapter I

EVIDENCES OF INTEREST IN COLLEGE TEACHING: SOURCES OF INFORMATION

Interest in Method First Exhibited at the Elementary-School Level.—Apparently interest in the improvement of methods of teaching originated at the lower end of the school system and spread from there to the secondary school and finally to the college and university. It is said that the invention of steel pens and blackboards and the discovery of the monitorial system of instruction exerted a profound influence on teaching methods subsequent to 1800.[1] Such discoveries made possible the recitation method and group instruction. Around 1860 the Pestalozzian methods spread rapidly in this country and further modified teaching procedures in the elementary school. About 1890 the Herbartian methods were brought back to America by De Garmo and the McMurrys. The work of Dewey, Thorndike, and others during the present century and the resulting effect on teaching procedures are well known to students of educa-

[1] V. T. Thayer, *The Passing of the Recitation*, chapter i. Boston: D. C. Heath and Co., 1928.

tion. Consequently interest in elementary method dates back more than a century in American education.[2]

Interest in Secondary-School Methodology.—Interest in secondary-school methods is of comparatively recent origin, since it was thought that a prospective teacher who knew the subject matter of instruction thoroughly had little or no need for training in methodology. In fact, as late as 1920 Parker made an interesting statement concerning a separate methods course for high-school teachers.[3] He pointed out that discussions by the Society of College Teachers of Education suggested the desirability of requiring of college juniors and seniors who expected to teach in high schools a distinct course dealing with the methods of classroom instruction as distinguished from the more general historical and administrative problems dealt with in the older omnibus courses in secondary education.

The increasing emphasis on professional training of secondary-school teachers is evidenced by the fact that many normal schools within the past decade have become teachers colleges authorized to grant degrees. The increase in these degree-granting institutions[4] has been from approximately twenty-five in 1917 to more than one hundred in 1927. The normal school or teachers college is no longer an institution devoted almost exclusively to the training of elementary teachers and the traditional liberal-arts college is no longer looked upon as the chief source of high-school teachers. It is of interest to note that the first permanent chair of education was

[2] Ellwood P. Cubberley, *Public Education in the United States*, chapter x. Boston: Houghton Mifflin Co., 1919.

[3] Samuel Chester Parker, *Methods of Teaching in High Schools*, p. xii. Boston: Ginn and Co., 1920.

[4] "Ten Years of Professional Progress," *Journal of the National Education Association*, XVI (October, 1927), 215–6.

established in 1873 and as late as 1890 there were only nine college departments of eduction;[5] in 1928 there were 630.[6]

Skeptical Attitude toward Systematic Training in College-Teaching Methods.—Quite recent indeed is the development of interest in problems of college teaching and methods of instruction in institutions of higher learning. In fact, it is not at all difficult to find in current literature vigorous statements which argue that a college or university teacher needs nothing more than a thorough knowledge of the subject matter to be taught. A statement which is typical of a number of other subjective discussions in current periodicals suggests that many college teachers have an attitude toward methodology comparable with that of high-school teachers of a decade or two ago.[7]

> Men who think they know how to teach are continually telling the world about the shortcomings in teaching method of instructors in American institutions of higher learning.
>
> . . . . . .
>
> The average young man who goes out to teach in a college or university has had the best training possible for a beginner; after leaving high school he has sat for four or five or seven years under many professors, whose methods he has observed, experienced, and evaluated. He knows what methods students like and profit by, and now it is up to the young instructor to try to put the best methods into operation for himself. He will of necessity experiment, and his experiments will progress better if he is not pestered by any "Meddlesome Matties" sent around to observe his work. He will soon find that certain methods, successfully used by others, are unsuited to him. He will reject this method and that, retain-

[5] Ellwood P. Cubberley, *Public Education in the United States*, p. 361. Boston: Houghton Mifflin Co., 1919.

[6] *Educational Directory:* 1928. Bureau of Education Bulletin No. 1, 1928. Washington: Bureau of Education. Pp. iv + 144.

[7] Charles Roger Hicks, "Instruction in Institutions of Higher Learning," *School and Society*, XXVIII (October 6, 1928), 428–9.

ing such methods as fit in with his temperament and personality. Perchance he may hit upon some new method which operates well, and in any event he will develop a system somewhat individualistic. His students will recognize him as a personality. He will not be a product of a routine based in part on the weaknesses of other men's schemes.

It will be recognized that this writer would leave the young college teacher's training in methodology to chance and the initiative of the individual. The same principle might be applied to the training of elementary and secondary teachers, but one very properly questions the economy of the trial-and-error method. If certain principles of method can be presented systematically and economically to teachers of the grades and high school, and such has been demonstrated repeatedly to be the case, it seems reasonable to offer similar training for those who teach at the college level.

Inquiries Concerning Problems of College Teaching.—Notwithstanding the skeptical attitude expressed in the preceding quotation with respect to systematic training in methods of college teaching, there are various types of evidence which indicate a genuine interest concerning improvement of instruction in institutions of higher learning. This concern may be illustrated by several inquiries which recently have reached the writer. A college president in Indiana writes for information concerning a bibliography on college teaching. The chairman of a curriculum-reorganization committee in a Colorado teachers college inquires concerning references and suggestions which will be of assistance in the reorganization of the college curriculum. A professor in a California university asks for suggestions in planning a course on college teaching. A graduate student (and dean of women) in an Ohio university requests information concerning bibliographical references on college

teaching as a preliminary step in the preparation of a Doctor's thesis on the mental hygiene of the college student and to provide a background in reporting a study of maladjusted college women.

First Systematic Discussion of College Teaching of a Subjective Character.—It has been only nine years since the appearance of Klapper's pioneer book, *College Teaching*,[8] which was prepared by an impressive array of subject-matter specialists in science, social science, language, literature, arts, and vocational subjects. However, there is hardly a reference in the whole book to a factual or experimental investigation of methods of teaching, even in discussing the teaching of psychology and education. No doubt two reasons, the interests of the subject-matter specialists and the limited number of investigations available at that time, are responsible for the subjective character of the twenty-eight chapters of the book. Certainly a survey of the educational literature of the past decade indicates much active investigation of teaching problems at the college level which should result in real progress in the improvement of college instruction.[9]

Present Discussion Based Largely on Factual Investigations and Experiments.—Kelly has expressed very well the desirability of utilizing the results of experiments and investigations in organizing professional courses for the

[8] Paul Klapper, *College Teaching.* Yonkers-on-Hudson, New York: World Book Co., 1920. Pp. xvi + 584.

[9] Carter V. Good, "Bibliography on College Teaching with Special Emphasis on Methods of Teaching," *Studies in Education*, pp. 66–95. Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

Carter V. Good, "The Literature on College Teaching," *School and Society*, XXVII (April 21, 1928), 481–7.

instruction of college and university teachers in methodology.[10]

It seems sure that a brighter day is coming in the training of college teachers. The first and foremost need in ushering in that brighter day is a clear recognition by the graduate schools that one of their principal functions, if not the principal function, is to train college teachers. This will involve a fundamentally different sort of curriculum than now prevails in the requirements for a degree of Doctor of Philosophy. The second essential of this movement is the development of a spirit of experimentation and investigation on the part of college faculties themselves, in order that there shall grow up a body of definitely proved material in the fields of college organization and teaching. In the third place, it is necessary that, in the professional aspects of teacher training, the education courses should develop out of the new experimental material which is developing and should not be "warmed-over" courses from the field of elementary and secondary education. Apprenticeship teaching should take place under the supervision of only thoroughly trained and recognized college teachers.

Obviously the merits of subjective criticisms and discussions of teaching procedures are limited, whether elementary, secondary, or college levels are involved. Writers on elementary and secondary methodology have drawn freely upon objective data in their discussions of methods of teaching. In fact, the major techniques of investigation are fairly well represented in the field of educational method at these two levels. Most of the

[10] F. J. Kelly, "The Training of College Teachers," *Journal of Educational Research*, XVI (December, 1927), 332–41.

For a statement of the extent of the literature in the field see M. E. Haggerty, "The Scholarly Study of College Education," *Journal of Educational Research*, XIX (February, 1929), 139–41.

For a good brief statement of the reasons for current educational readjustments and the agencies interested see W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapter i. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

earlier books on method were philosophical and abstract discussions of theories held by individual authors; that this type of treatment has not been abandoned is evidenced by Kilpatrick's *Foundations of Method.*[11] Certain writers are concerned with a comparative description or survey of current practices; West's *Changing Practice in Handwriting Instruction*[12] involved the questionnaire technique in such a survey, while other volumes contain exact reproductions and detailed analyses of classroom lessons and procedures, as in Parker's books on method. A number of authors have borrowed a great deal of illustrative material from the history of education in tracing the evolution of educational method. One of the most encouraging types of activity is that of submitting to experimental test the theories or procedures advocated by the individual worker, as illustrated in Morrison's *The Practice of Teaching in the Secondary School.*[13] The most recent development in the field of method is the utilization of the technique of job analysis or activity analysis as exemplified in Waples' *Problems in Classroom Method.*[14]

A survey of the literature on college teaching indicates that it is now possible to follow the example set by writers in the fields of elementary and secondary methods, namely, to base conclusions on experimental and factual

[11] William Heard Kilpatrick, *Foundations of Method: Informal Talks on Teaching.* New York: Macmillan Co., 1925. Pp. xii + 384.

[12] Paul V. West, *Changing Practice in Handwriting Instruction.* Educational Research Monographs, No. 9. Bloomington, Illinois: Public School Publishing Co., 1927. Pp. vi + 142.

[13] H. C. Morrison, *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press, 1926. Pp. viii + 662.

[14] Douglas Waples, *Problems in Classroom Method.* New York: Macmillan Co., 1927. Pp. xxii + 610.

evidence rather than to depend on subjective analyses and the voice of authority in selecting teaching procedures. In so far as possible the aim of this book will be to summarize, organize, and interpret the available evidence of an objective nature which throws light on problems of teaching at the level of the college and university. Where such factual information is lacking an effort will be made to present the best authoritative opinion available.

Familiarity with Sources of Information.—Tangible evidence of real interest in the problems of higher education is found in the relatively large number of available sources of information. Obviously those teaching or enrolled in courses on college teaching, college teachers in service, and graduate students who expect to work in higher institutions should become familiar with the professional literature in their fields. Among the more common sources of information which will be discussed in subsequent portions of this chapter are: graduate theses, leaders in the field, bibliographies, abstracts, educational directories, periodicals, publications of teacher-training institutions, surveys of higher institutions, bulletins of the United States Bureau of Education, bulletins of foundations for the advancement of learning and teaching, professional organizations and their publications, educational yearbooks, educational publishers, etc.[15]

Information Concerning Leaders in the Field of Higher Education.—The writer debated for a time the advisability of including a list of prominent educators and research workers interested in higher education, but decided limitations of space did not permit. Such infor-

[15] Carter V. Good, *How to Do Research in Education*, chapter ii. Baltimore: Warwick and York, 1928. A part of the subsequent discussion of sources of information is adapted from this book.

mation may be gleaned from the various bibliographical references. Likewise, it seemed impracticable to present a list of contributions made by individual workers in the field or a statement of current research projects. By the time this chapter is in the hands of the reader such a list of contributions would not be complete and the research projects would no longer be contemporary. The intellectual activity and growth of student or professor will be stimulated more vigorously and individual interests met more adequately if he performs these services for himself. Certain sources of information, some rather homely to be sure but none the less enlightening, concerning educational workers and their interests may be mentioned: direct contact in teacher-training institutions, contacts at institutes for administrative officers of institutions of higher education, educational publications, educational periodicals (articles, book reviews, editorial staff, editorial comment, news items, advertisements of publishing houses, and lists of publications), school-survey reports, monograph series, series of educational textbooks, yearbooks of professional organizations, membership lists of professional organizations as usually found in available yearbooks (National Society for the Study of Education, National Society of College Teachers of Education, American Association of University Professors, Sections Q and I of the American Association for the Advancement of Science, Educational Research Association, Department of Superintendence, and the American Psychological Association), addresses and papers at professional and educational gatherings, educational directories (national and state), catalogues of teacher-training institutions, *Who's Who in America*, *American Men of Science*, *Biographical Directory of American Scholars*, bibliographies, and the *Phi Delta Kappan* (publication of a national professional fraternity in

education). Special attention should be directed to the National Society of College Teachers of Education.

Educational Directories.—The United States Bureau of Education publishes an annual educational directory which is of great interest to students of education and public-school workers. A partial list of the items of information included is as follows: principal state school officers, county superintendents, superintendents of public schools, presidents of universities and colleges, presidents or deans of professional schools, educational boards and foundations, educational and learned associations, and educational periodicals. An annual directory published by the Brewer Teachers Agency of Chicago contains certain information concerning the number of teachers in school systems and higher institutions of learning, salaries of school officials, number of pupils or students enrolled, and heads of school systems and educational institutions. Most of the regional and national accrediting and standardizing organizations publish information which is essentially a directory of the schools represented. Certain states publish educational directories containing information similar to that included in the directories mentioned above. A number of the larger city systems print annual educational directories. It will be recognized that there are numerous occasions on which workers in education find the information included in such educational directories of real value. Patterson's *American Educational Directory* (American Educational Co., Chicago,) is a valuable and complete handbook. In chapter ii specific reference will be made to several college handbooks of information.

International Educational Associations and Foundations.—The student of college problems may to advantage become familiar with the work of international, national, and sectional associations, societies, and

foundations for the advancement of the cause of education. In the lists of such organizations as given below the names of officers, addresses of officers, and places and dates of meetings will not be given since such information is subject to change. The reader may secure these facts from the annual educational directory of the United States Bureau of Education. Where permanent addresses are available, such will be listed. Among the international education associations and foundations may be mentioned the following:

Institute of International Education, 2 West Forty-Fifth Street, New York City.
International Bureau of Education, 4 Rue Charles Bonnet, Geneva, Switzerland.
International Congress of Psychology.
International Council of Religious Education.
International Education Board, 61 Broadway, New York City.
World Association for Adult Education, 16 Russell Square, London, W. C. 1, England.
World Federation of Education Associations, Augusta, Maine.

American Foundations and Boards.—A few American foundations which have been especially helpful in advancing the cause of education through fellowships, encouragement of research, subsidies granted to investigators in the field, and through their own investigations and publications may be mentioned. Lists of the publications and studies sponsored by these foundations may be secured from the organizations in question. In a number of instances copies of the various bulletins issued may be secured free of charge. A valuable bulletin describes the work of most of the foundations enumerated.[16] Prob-

[16] Henry R. Evans, *Educational Boards and Foundations*, 1924–1926. Bureau of Education Bulletin No. 10, 1927. Washington: Bureau of Education. Pp. 12.

See also *A Handbook of Educational Associations and Foundations in the United States.* Bureau of Education Bulletin No. 16, 1926. Washington: Bureau of Education. Pp. iv + 82.

ably in connection with these associations and foundations the well-known Rhodes scholarships should be mentioned.

American Field Service Fellowships for French Universities, 52 William Street, New York City.
Baron de Hirsch Fund, 730 Fifth Avenue, New York City.
Carnegie Corporation of New York, 522 Fifth Avenue, New York City.
Carnegie Foundation for the Advancement of Teaching, 522 Fifth Avenue, New York City.
Commission for Relief in Belgium Educational Foundation, 42 Broadway, New York City.
Commonwealth Fund, 1 East Fifty-Seventh Street, New York City.
Engineering Economics Foundation, 3 Joy Street, Boston, Massachusetts.
General Education Board, 61 Broadway, New York City.
John F. Slater Fund, Charlottesville, Virginia.
John Simon Guggenheim Memorial Foundation, 120 Broadway, New York City.
Julius Rosenwald Fund, Homan Avenue and Arthrington Street, Chicago, Illinois.
Kahn Foundation for the Foreign Travel of American Teachers, 598 Madison Avenue, New York City.
Laura Spelman Rockefeller Memorial, 61 Broadway, New York City.
Phelps-Stokes Fund, 101 Park Avenue, New York City.
Rockefeller Foundation, 61 Broadway, New York City.
Russell Sage Foundation, 130 East Twenty-Second Street, New York City.

American Educational and Learned Associations Interested in Higher Education.—It is of interest to list the best-known educational and learned organizations which are concerned to a greater or less extent with the problems of higher education. In certain instances a given organization will be marked by an asterisk to denote an important publication such as a yearbook, journal, volume of proceedings, or bulletin. Special attention should be directed to the yearbooks of the International

Institute of Teachers College, Columbia University, which describe current educational conditions in foreign countries, as well as in the United States. This series of valuable yearbooks began in 1925 and covered the preceding year. In the following list only associations of rather general interest will be mentioned, since space is not available for naming all of the existing organizations. Where permanent addresses are available, such will be listed. The reader who is interested in a special field will find in virtually every instance that the various lines of activity at the college level are represented by one or more national associations. This information may be secured from the annual directory of the United States Bureau of Education. (Also see Appendix.)

American Association for Adult Education, 41 East Forty-Second Street, New York City.

*American Association for the Advancement of Science, Washington, D. C., *Proceedings.*

*American Association of Collegiate Registrars, *Bulletin,* (quarterly).

American Association of Junior Colleges.

*American Association of Teachers Colleges, *Yearbooks.*

*American Association of University Professors, *Bulletin,* (8 numbers).

*American Association of University Women, *Journal,* (quarterly).

American Council of Learned Societies Devoted to Humanistic Studies, 907 Fifteenth Street, N. W., Washington, D. C.

*American Council on Education, 26 Jackson Place, Washington, D. C., *Educational Record,* (quarterly).

American Psychological Association, University of Pennsylvania, Philadelphia, Pennsylvania.

*Association of American Colleges, 111 Fifth Avenue, New York City, *Bulletin,* (6 numbers).

*Association of American Universities, *Proceedings.*

Association of Colleges and Secondary Schools of the Middle States and Maryland.

Association of Colleges and Secondary Schools of the Southern States.

Association of Departments of Education in State Universities and Land-Grant Colleges.

Association of Land-Grant Colleges and Universities.

College Entrance Examination Board, 431 West One Hundred and Seventeenth Street, New York City.

*Educational Research Association, *Journal of Educational Research*, (10 numbers).

National Association of Deans and Advisers of Men.

*National Association of Deans of Women, *Yearbooks*.

National Association of State Universities in the United States of America.

National Committee on Research in Secondary Education.

National Conference of Supervisors and Directors of Instruction, *Journal*, (10 numbers).

*National Education Association, 1201 Sixteenth Street, Washington, D. C., *Journal*, (9 numbers), *Annual Proceedings*, and *Research Bulletin*, (5 numbers).

*National Education Association, Department of Secondary School Principals, *Yearbooks*.

*National Education Association, Department of Superintendence, *Yearbooks*.

National Education Association, National Council of Education.

National Research Council, Division of Education Relations, B and Twenty-First Streets, N. W., Washington, D. C.

*National Society for the Study of Education, Danvers, Massachusetts, *Yearbooks*.

*National Society of College Teachers of Education, *Yearbooks*.

New England Association of College Teachers of Education.

New England Association of Colleges and Secondary Schools.

*North Central Association of Colleges and Secondary Schools, *North Central Association Quarterly*.

Northwest Association of Secondary and Higher Schools.

*Progressive Education Association, 10 Jackson Place, Washington, D. C., *Progressive Education*, (quarterly).

Educational Periodicals of Interest to Students of Higher Education.—A complete list of educational periodicals currently received by the library of the Bureau of Education will be found in the annual educational directory of the United States Bureau of Education. In this directory the reader will find the various educational interests

more or less adequately represented; hardly any subdivision of the field fails to be represented by one or more of the publications listed, although many of the periodicals rarely print original or experimental investigations containing quantitative data. Attention should be directed to the handbooks of the Educational Press Association of America, Washington, D. C., which include classified lists of educational periodicals. It seems advisable at this point to list the educational periodicals of both general and special interest to the student of higher education which place some emphasis on quantitative evidence. It will be recognized that certain of the periodicals are also interested in secondary and even elementary education. (Also see Appendix.)

There is a growing tendency among educational organizations, both national and state, to issue a publication which represents the interests of the group in question. Many state teachers' associations sponsor a state journal for teachers. Various national organizations with specialized interests issue a publication, usually at intervals of a month, which serves as the official organ of the group in question. Where a national or sectional organization has an official organ it will be indicated in the following list. Journals which place considerable emphasis on experiments, investigations, and factual data will be indicated by an asterisk. It is a matter of interest to workers in education to note the number of professional organizations which publish yearbooks or volumes of annual proceedings of a more pretentious nature than the bulletins and journals enumerated. Attention was called to such major publications in the preceding list of educational associations. The current yearbook of an organization usually lists the titles of preceding publications. In the list of journals special attention should be directed to the *Journal of Higher Education*, established in 1929.

American Educational Digest. 1126–28 Q Street, Lincoln, Nebraska. 11 numbers. (Now *School Executives Magazine*).

American Physical Education Review. American Physical Education Association, G, Highland Station, Springfield, Massachusetts. 10 numbers.

**American School Board Journal.* Bruce Publishing Co., 354 Milwaukee Street, Milwaukee, Wisconsin. Monthly.

American Speech. Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore, Maryland. Monthly.

Association of American Colleges Bulletin. Association of American Colleges, 111 Fifth Avenue, New York City. 6 numbers.

Bulletin of the American Association of Collegiate Registrars. Johns Hopkins Press, Baltimore, Maryland. Quarterly.

Bulletin of the American Association of University Professors. American Association of University Professors, Twentieth and Northampton Streets, Easton, Pennsylvania. 8 numbers.

Classical Journal. Classical Associations, University High School Building, Ann Arbor, Michigan. 9 numbers.

Education. The Palmer Co., 120 Boylston Street, Boston, Massachusetts. 10 numbers.

**Educational Administration and Supervision.* Warwick and York, Baltimore, Maryland. 9 numbers.

Educational Record. American Council on Education, 24–26 Jackson Place, Washington, D. C. Quarterly.

Educational Review. Doubleday, Page and Co., Garden City, New York. 10 numbers. (Now combined with *School and Society*).

**English Journal,* College and High School Editions. National Council of Teachers of English, University of Chicago Press, Chicago, Illinois. 10 numbers.

Historical Outlook. Endorsement of American Historical Association, McKinley Publishing Co., Philadelphia, Pennsylvania. 9 numbers.

Industrial-Arts Magazine. Bruce Publishing Co., 354 Milwaukee Street, Milwaukee, Wisconsin. Monthly.

Industrial Education Magazine. Manual Arts Press, Peoria, Illinois. Monthly.

Journal of Adult Education. American Association for Adult Education, 41 East Forty-Second Street, New York City. Quarterly.

**Journal of Applied Psychology.* Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore, Maryland, Bimonthly.

Journal of Chemical Education. 225 Church Street, Easton, Pennsylvania. Monthly.

Journal of Commercial Education. Stenographic World Publishing Co., 44 North Fourth Street, Philadelphia, Pennsylvania. 10 numbers.

Journal of Education. New England Publishing Co., 6 Beacon Street, Boston, Massachusetts. Weekly.

**Journal of Educational Method.* National Conference of Supervisors and Directors of Instruction, 525 West One Hundred and Twentieth Street, New York City. 10 numbers. (Now *Educational Method*).

**Journal of Educational Psychology.* Warwick and York, Baltimore, Maryland. 9 numbers.

**Journal of Educational Research.* Public School Publishing Co., Bloomington, Illinois. 10 numbers.

Journal of Educational Sociology. American Viewpoint Society, 13 Astor Place. New York City. 10 numbers.

**Journal of Experimental Psychology.* Psychological Review Co., Princeton, New Jersey. Bimonthly.

Journal of Geography. For National Council of Geography Teachers, A. J. Nystrom and Co., 2249 Calumet Avenue, Chicago, Illinois. 9 numbers.

**Journal of Higher Education.* Ohio State University, Columbus, Ohio. 10 numbers.

Journal of Home Economics. American Home Economics Association, 101 East Twentieth Street, Baltimore, Maryland. Monthly.

Journal of Physical Education. National Council of the Young Men's Christian Association, Physical Department, Cornwall, New York. 10 numbers.

Journal of Social Hygiene. American Social Hygiene Association, 27–29 Columbia Street, Albany, New York. 9 numbers.

Journal of the American Association of University Women. Rumford Building, 10 Ferry Street, Concord, New Hampshire. Quarterly.

Journal of the National Education Association. 1201 Sixteenth Street, N. W., Washington, D. C. 9 numbers.

**Journal of Personnel Research.* Personnel Research Federation, Williams and Wilkins Co., Mount Royal and Guilford

Avenues, Baltimore, Maryland. Monthly. (Now *Personnel Research*).

Mathematics Teacher. National Council of Teachers of Mathematics, 425 West One Hundred and Twenty-Third Street, New York City. 8 numbers.

Mental Hygiene. 372–74 Broadway, Albany, New York. Quarterly.

**Modern Language Journal.* National Federation of Modern Language Teachers, University of Wisconsin, Madison, Wisconsin. 8 numbers.

North Central Association Quarterly. University High School Building, Ann Arbor, Michigan. Quarterly.

**Peabody Journal of Education.* George Peabody College for Teachers, Nashville, Tennessee. Bimonthly.

**Pedagogical Seminary and Journal of Genetic Psychology.* Clark University, Worcester, Massachusetts. Quarterly.

Progressive Education. Progressive Education Association, 10 Jackson Place, Washington, D. C. Quarterly.

Psychological Abstracts. American Psychological Association, Prince and Lemon Streets, Lancaster, Pennsylvania. 13 numbers.

Quarterly Journal of Speech Education. National Association of Teachers of Speech, 10–12 Chester Street, Champaign, Illinois. Quarterly.

Religious Education. Religious Education Association, 308 North Michigan Avenue, Chicago, Illinois. 10 numbers.

**Research Bulletin.* National Education Association, Research Division, 1201 Sixteenth Street, N. W., Washington, D. C. 5 numbers.

**School and Society.* The Science Press, Grand Central Terminal, New York City. Weekly.

School Life. United States Bureau of Education, Washington, D. C. 10 numbers.

**School Review.* School of Education, University of Chicago, Chicago, Illinois. 10 numbers.

**School Science and Mathematics.* Central Association of Science and Mathematics Teachers, Mount Morris, Illinois. 9 numbers.

Social Science Abstracts. Social Science Research Council, Columbia University, New York City. Monthly.

**Sociology and Social Research.* University of Southern California, Los Angeles, California. Bimonthly.

**Teachers College Record.* Teachers College, Columbia University, New York City. 8 numbers.

Teachers Journal and Abstract. Colorado State Teachers College, Greeley, Colorado. 9 numbers.

United States Bureau of Education and Higher Education.—Space is available only for calling attention to the valuable work done by the Bureau of Education. The numerous publications of this agency should be known to every student of education. They cover a wide range of interest and include probably the best available source of information on current educational conditions, contemporary educational literature, educational statistics, and current movements in education. A list of the publications referred to may be secured from the United States Bureau of Education at Washington, D. C. Most libraries have these bulletins on file. Under certain conditions educational workers may be placed on the mailing list of the Bureau to receive at least a part of the numerous bulletins free of charge. The value of the publications to workers interested in higher education may be illustrated by a partial list of recent publications which deal at least in part with college and university problems.

1927 Bulletins

No. 1. *Educational Directory*, 1927.

No. 2. *Record of Current Educational Publications, January* 1, 1927.

No. 3. *School Hygiene and Physical Education.* J. F. Rogers. Advance Sheets from Biennial Survey, 1924–1926.

No. 7. *Methods of Teaching Adult Aliens and Native Illiterates.*

No. 8. *Recent Movements in City School Systems.* W. S. Deffenbaugh. Advance Sheets from Biennial Survey, 1924–1926.

No. 9. *Medical Education*, 1924–1926. N. P. Colwell. Advance Sheets from Biennial Survey, 1924–1926.

No. 10. *Educational Boards and Foundations*, 1924–1926. H. R. Evans. Advance Sheets from Biennial Survey, 1924–1926.

No. 12. *Record of Current Educational Publications, January–March*, 1927.

No. 13. *Statistics of State School Systems*, 1924–25. Advance Sheets from Biennial Survey, 1924–1926.

No. 14. *Physical Education in American Colleges and Universities.* Marie M. Ready.

No. 16. *The Reading of Modern Foreign Languages.* M. V. O'Shea.

No. 17. *Typical Child Care and Parenthood Education in Home Economics Departments.* E. S. Whitcomb.

No. 18. *Public Education of Adults in Years* 1924–1926. L. R. Alderman. Advance Sheets from Biennial Survey, 1924–1926.

No. 19. *State Laws and Regulations Governing Teachers' Certificates.* K. M. Cook.

No. 25. *Record of Current Educational Publications, April–June*, 1927.

No. 26. *Trends in the Development of Secondary Education.* Eustace E. Windes. Advance Sheets from Biennial Survey, 1924–1926.

No. 27. *Bibliography of Studies in Secondary Education.* Eustace E. Windes.

No. 29. *Industrial Education in* 1924–1926. Maris M. Proffitt. Advance Sheets from Biennial Survey, 1924–26.

No. 30. *Statistics of Teachers Colleges and Normal Schools*, 1925–26. Advance Sheets from Biennial Survey, 1924–1926.

No. 31. *Statistics of Private High Schools and Academies*, 1925–26. Advance Sheets from Biennial Survey, 1924–1926.

No. 32. *Statistics of City School Systems*, 1925–26. Advance Sheets from Biennial Survey, 1924–1926.

No. 33. *Statistics of Public High Schools*, 1925–26. Advance Sheets from Biennial Survey, 1924–1926.

No. 34. *Higher Education*, 1924–1926. Arthur J. Klein. Advance Sheets from Biennial Survey, 1924–1926.

No. 35. *Achievements in Home Economics Education.* Emeline S. Whitcomb. Advance Sheets from Biennial Survey, 1924–1926.

No. 36. *Preparation of Teachers.* Wm. McKinley Robinson. Advance Sheets from Biennial Survey, 1924–1926.

No. 37. *Land-Grant Colleges, June* 30, 1926. Walter J. Greenleaf.

No. 38. *Record of Current Educational Publications, July–September*, 1927.

No. 39. *Statistics of State School Systems*, 1925–26. Advance Sheets from Biennial Survey, 1924–1926.
No. 40. *Statistics of Universities, Colleges, and Professional Schools*, 1925–26. Advance Sheets from Biennial Survey, 1924–1926.
No. 41. *Accredited Higher Institutions.*

1928 Bulletins

No. 1. *Educational Directory*, 1928.
No. 2. *Statistics of Nurse Training Schools*, 1926–27.
No. 3. *College and University Extension Helps in Adult Education.* L. R. Alderman.
No. 6. *Professional Preparation of Teachers for Rural Schools.*
No. 7. *Survey of Negro Colleges and Universities.*
No. 11. *Educational Surveys.* Arthur J. Klein, Walter S. Deffenbaugh, Timon Covert, and Edith A. Lathrop. Advance Sheets from Biennial Survey, 1924–1926.
No. 12. *Statistical Survey of Education*, 1925–26. Frank M. Phillips. Advance Sheets from Biennial Survey, 1924–1926.
No. 13. *Major Trends of Education in Other Countries.* James F. Abel. Advance Sheets from Biennial Survey, 1924–1926.
No. 14. *Land-Grant Colleges and Universities*, 1927. W. J. Greenleaf.
No. 16. *Secondary Schools of the Southern Association.* Joseph Roemer.
No. 18. *Private and Endowed Schools Offering Trade and Industrial Courses.* Maris M. Proffitt.
No. 19. *Statistics of Education of the Negro Race*, 1925–1926. David T. Blose.
No. 20. *Laws Relating to Compulsory Education.* Ward W. Keesecker.
No. 21. *Requirements for High-School Graduation.* Carl A. Jessen.
No. 22. *Bibliography of Research Studies in Education*, 1926–1927. John D. Wolcott.
No. 23. *Record of Current Educational Publications, October-December*, 1927.
No. 25. *Biennial Survey of Education*, 1924–1926.
No. 26. *Accredited Secondary Schools in the United States.*
No. 27. *Helps for Teachers of Adult Immigrants and Native Illiterates.* L. R. Alderman.

No. 29. *State School Taxes and School Funds and Their Apportionment.* F. H. Swift and B. L. Zimmerman.

1929 Bulletins

No. 1. *Educational Directory.*
No. 2. *Self-Help for College Students.* Walter J. Greenleaf.
No. 4. *Illiteracy in the Several Countries of the World.* F. J. Abel and N. J. Bond.

Bulletins, Monographs, and Studies Published by Teacher-Training Institutions.—Some of the most valuable information in education appears in the publications of the larger schools of education. The following list of college and university publications dealing with education should be of some service to the worker in locating original studies and contributions.

Colorado State Teachers College, Greeley, Colorado—*Bulletins.*
George Peabody College for Teachers—*Contributions to Education.*
Harvard University, School of Education, Cambridge, Massachusetts—*Bulletins, Monographs,* and *Studies.*
Indiana University, Bureau of Cooperative Research, Bloomington, Indiana—*Bulletins.*
Johns Hopkins University, Baltimore, Maryland—*Studies in Education.*
Kansas State Teachers College, Extension Division, Emporia, Kansas—*Bulletins.*
Ohio State University, Bureau of Educational Research, Columbus, Ohio—*Bulletins* and *Monographs.*
State University of Iowa, Iowa City, Iowa—*Bulletins, Monographs,* and *Studies*—(a) Iowa Child Welfare Research Station, and (b) College of Education Series.
Teachers College, Columbia University, New York City—*Contributions to Education* and Lincoln School *Monographs.*
University of California, Bureau of Research in Education, Berkeley, California—*Studies.*
University of Chicago, School of Education, Chicago, Illinois—*Supplementary Educational Monographs.*
University of Illinois, Bureau of Educational Research, Urbana, Illinois—*Research Bulletins* and *Research Circulars.*
University of Michigan, Bureau of Educational Reference and Research, Ann Arbor, Michigan—*Bulletins.*

University of Minnesota, College of Education, Minneapolis, Minnesota—*Monographs*, *Studies*, and *Bulletins*.
University of Wisconsin, Bureau of Educational Research, Madison, Wisconsin—*Bulletins*.

Upon request lists of the publications issued by the various institutions mentioned above will be provided by the schools in question. Probably at the present time the publications of Teachers College of Columbia University, the University of Chicago, Ohio State University, and the University of Illinois are best known to students of education. The number of volumes in the monograph series, *Teachers College Contributions to Education*, which consists of Doctors' dissertations, at this writing numbers approximately 350; the monograph series, *Supplementary Educational Monographs*, which includes studies of a somewhat higher grade than the ordinary Doctor's dissertation, at this writing numbers thirty-six investigations.

Bulletins and Reports of State and City School Systems.—As a rule libraries do not have an adequate supply of state and city manuals, programs of study, school-board reports, superintendents' reports, etc. However, this is a valuable source of information for the student of education and the worker in the public-school field. In most cases such materials can be secured from the school system in question free of charge or at a nominal fee which covers cost of printing. Space does not permit the inclusion of a list of the city bureaus of educational research, boards, and state departments which publish useful monographs, bulletins, and pamphlets. The reader may be referred to a valuable article[17] in the *Teachers Journal and Abstract* which gives such information. Of course

[17] Frederick L. Whitney and Earle U. Rugg, "Sources of Current Literature in Education," *Teachers Journal and Abstract*, I (January, 1926), 47–53.

most of the larger cities publish manuals, courses of study, and superintendents' and school-board reports.

School Survey Reports and Survey Staffs.—Valuable data concerning public-school systems and higher institutions of learning are available in school-survey reports. Among the agencies making school surveys during the past twelve or fifteen years are the United States Bureau of Education; the Association of American Colleges; the General Education Board; The Russell Sage Foundation; the educational staffs of such institutions as Teachers College of Columbia University and the University of Chicago; and city school boards and state departments of education working together with outside educational experts. Lists of school surveys made by the agencies in question and information concerning the cost of the reports may be secured from the agencies themselves, and in many cases, especially when surveys have been made by state departments, the United States Bureau of Education, and the General Education Board, copies may be secured free of charge or at nominal cost. Usually such survey agencies are especially generous in providing libraries with copies of the reports. Sears has provided a selected list of surveys of particular interest to public-school workers.[18] A late bulletin of the United States Bureau of Education includes a summary of recent surveys of higher education, as well as of city and rural surveys.[19] The surveys of higher institutions of learning mentioned in the bulletin are as follows:

[18] Jesse B. Sears, *The School Survey*, pp. 429–33. Boston: Houghton Mifflin Co., 1925.

[19] Arthur J. Klein, Walter S. Deffenbaugh, Timon Covert, and Edith A. Lathrop, *Educational Surveys*. Bureau of Education Bulletin No. 11, 1928. Washington: Bureau of Education. Pp. 68.

For a statement of the work of the Association of American Colleges see Charles R. Mann, "Report of the Commission on

Survey of University of Porto Rico, conducted by S. P. Capen, included in Survey of Education in Porto Rico, made by International Institute of Teachers College, Columbia University, 1925.

Survey of University of Utah, conducted by George F. Zook, included in Survey of Education in Utah, Bureau of Education Bulletin No. 18, 1926.

Survey of Higher Education in Tennessee, 1924, conducted by George F. Zook.

Study of Berea College made by George F. Zook in October, 1924.

Survey of State Institutions of Higher Learning in Kansas, Bureau of Education Bulletin No. 40, 1923.

Survey of Higher Education, included in Texas Educational Survey, directed by George A. Works, 1924–25.

A Survey of the State Institutions of Higher Learning in Indiana, directed by Floyd W. Reeves, 1926.

Investigation Relative to Opportunities and Methods for Technical and Higher Education in the Commonwealth of Massachusetts, directed by George F. Zook, 1923.

Survey of the Baptist Colleges of Tennessee, conducted by George F. Zook, 1922.

Survey of Higher Education in Cleveland, directed by George F. Zook, 1924.

Survey of the University of the Philippines, conducted by S. P. Duggan, included in the Survey of Education in the Philippine Islands, made by the International Institute of Teachers College, Columbia University, 1924.

Educational Survey of the University of Pennsylvania, conducted by Frederick J. Kelly.

Survey of the North Carolina State College of Agriculture and Engineering, conducted by George F. Zook, 1923.

Educational Bibliographies and Abstracts.—The student of education may save himself much searching in the library and some mental anguish by becoming familiar with available bibliographies. The United States Bureau of Education publishes bibliographies which cover a wide range of interest and at frequent intervals

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Educational Surveys," *Association of American Colleges Bulletin*, XIV (March, 1928), 128–37; XV (March, 1929), 115–22.

issues classified lists of current educational literature. Specific information concerning publications of the Bureau of Education may be obtained by examining the Bureau's list of publications. There is available a partial list of important educational bibliographies in the *Teachers Journal and Abstract.*[20] Another bibliography of bibliographies[21] presents a valuable list of 231 items. Three general bibliographies and two reviews of the literature of 1928 which deal with higher education should be mentioned.[22]

The *Teachers Journal and Abstract,* published by Colorado State Teachers College, Greeley, Colorado, and the *Loyola Educational Digest* (Chicago) are valuable aids in that each month they summarize the important educational contributions, especially the magazine articles, of the preceding month. At least one large institution, the University of Chicago, publishes in bound volumes

[20] Frederick L. Whitney and Earle U. Rugg, "Sources of Current Literature in Education," *Teachers Journal and Abstract,* I (January, 1926), 47–53.

[21] Walter S. Monroe and Ollie Asher, *A Bibliography of Bibliographies.* University of Illinois Bulletin, Vol. XXIV, No. 36. Urbana, Illinois: University of Illinois, 1927. Pp. 60.

[22] Carter V. Good, "Bibliography on College Teaching with Special Emphasis on Methods of Teaching," *Studies in Education,* pp. 66–95. Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

L. W. Bartlett, "Bibliography on the Professional Growth of Faculty Members," *Association of American Colleges Bulletin,* XII (November, 1926), 275–300.

List of References on Higher Education. Library Leaflet No. 35, September, 1927. Washington: Bureau of Education. Pp. 40.

"The Association's Bookshelf," *Association of American Colleges Bulletin,* XIV (December, 1928), 476–512.

Ruth E. Anderson, "The Colleges in Current Literature," *Association of American Colleges Bulletin,* XIV (December, 1928), 513–6.

abstracts of the Doctors' theses accepted. A number of the educational periodicals include book reviews, which are reasonably adequate abstracts and evaluations of current literature in book form, and a monthly list of educational publications received. Attention should also be directed to the journals, *Psychological Abstracts* and *Social Science Abstracts*, the titles of which indicate the nature of the contents.

Graduate Theses Are Valuable Sources of Information.— It is a matter of interest to note the relatively large number of significant problems attacked in Masters' and Doctors' dissertations in education. In most fields the graduate thesis is of insufficient general interest to attract a sale large enough to defray the cost of publication. However, in the field of education, a considerable number of these investigations made during the past few years have been published by commercial houses which of course expect to be reimbursed through sales for the expenditure involved. Yet, it must be admitted that except for the individual who visits in person the library of the department of education, the large number of graduate theses are comparatively inaccessible. It is true that under certain conditions the graduate thesis is forwarded from the library to the distant applicant, but the number of copies available and the "red tape" involved limit materially dissemination of the information included in these studies.

Graduate schools and departments of education call the attention of students to theses which have been accepted in the past and urge that they be examined carefully. The University of Chicago at intervals publishes a volume of abstracts of the Doctors' theses accepted in the various fields of graduate work. The *Teachers College Contributions to Education* monographs are a series of Doctors' theses accepted at Teachers Col-

lege, Columbia University. In many instances the publications of teacher-training institutions are graduate studies. The Bureau of Educational Research of the University of Illinois, covering the period since January, 1917, has issued annual or biennial mimeographed lists of graduate theses in education. These lists are adequately classified. A bulletin of this bureau includes the titles of all Doctors' theses in education from January, 1918, to 1927 inclusive.[23] The United States Library of Congress has a list of the American doctoral dissertations which are printed each year, beginning with the year 1912. A number of the larger graduate schools and departments of education have available lists of Masters' and Doctors' theses which are furnished on request. Teachers College, Columbia University, publishes annually a register of its Doctors of Philosophy from 1899 to date and a bulletin of Masters' theses accepted for the year.

Educational Publishers and Their Offerings of Books and Reference Volumes.—Educational publishers are glad to supply the applicant with catalogues of their publications. Certain houses publish books in series grouped around some appropriate educational title such as, *Riverside Textbooks in Education*, *Lippincott Educational Guides*, etc. A list of these series in education may be found in an article[24] to which reference has previously been made. Upon application workers in education may be placed on the mailing lists of educational publishers and thereby receive notices of new publications. Certain publishers send notices on cards suitable for filing. Book reviews

[23] Walter S. Monroe and Others, *Ten Years of Educational Research*, 1918–1927. University of Illinois Bulletin, Vol. XXV, No. 51. Urbana, Illinois: University of Illinois, 1928. Pp. 368.

[24] Frederick L. Whitney and Earle U. Rugg, "Sources of Current Literature in Education," *Teachers Journal and Abstract*, I (January, 1926), 47–53.

and lists of current publications received, as found in professional journals, as well as advertisements in periodicals, are of assistance to the reader in keeping in touch with new books. *School and Society* prints an annual list of pedagogical literature. The *Educational Review* (now combined with *School and Society*) and the *Teachers Journal and Abstract* have been accustomed to publish annual lists of professional books received during the preceding twelve months, grouped by publishers and fields respectively. Since 1923 the *Journal of the National Education Association* has published an annual selected bibliography, with annotations, of new books chosen by experts in the field. The list for 1926 includes some sixty selected titles plus a number of additional titles which receive mention only. More than 250 publications on teaching and school administration were issued in 1926. Reports[25] in *School and Society* include classified lists of more than 400 volumes each, dealing with teaching, school administration, and educational research, which appeared in 1927 and 1928. The complete lists of educational books published in 1927 and 1928 include approximately 450 titles each, the selected lists[26] of sixty books for 1927 and 1928 appeared in print in March, 1928, and March, 1929.

Books may be traced by author, title, and subject in the card indexes of the library, the *United States Cata-*

[25] Joseph L. Wheeler, "Educational Books of 1927," *School and Society*, XXVI (December 31, 1927), 823–35.

Joseph L. Wheeler, "Educational Books of 1928," *School and Society*, XXVIII (December 29, 1928), 801–15.

[26] "Sixty Educational Books of 1927," *Journal of the National Education Association*, XVII (March, 1928), 95–8.

"Sixty Educational Books of 1928," *Journal of the National Education Association*, XVIII (March, 1929), 95–8.

Also Joseph L. Wheeler, "The Sixty Educational Books of 1928," *School and Society*, XXIX (February 16, 1929), 230–2.

logue, Supplements to the United States Catalogue, and the *Cumulative Book Index.* The *Book Review Digest* indexes important books and gives abstracts of reviews found in many of the leading periodicals. In addition, the student may find it helpful to familiarize himself with the "Dewey Decimal" system of classification and to examine the books on the shelves of the library; sometimes valuable material is located in this way which was not discovered by canvassing the card index. The number for education is 370, while the appropriate subdivisions of education may be located under numbers ranging from 370–379 inclusive. Sometimes it is worth while to canvass related fields such as sociology and psychology when investigating special problems in education.

Certain educational reference books are of value, although they are soon out of date. Expense of revision prevents them from being brought up to date at frequent intervals and therefore such sources present only a partial treatment of educational problems. In this connection may be mentioned Paul Monroe's *An Encyclopedia of Education,* F. Watson's *The Encyclopedia and Dictionary of Education,* J. M. Baldwin's *A Dictionary of Philosophy and Psychology,* and the general reference works and encyclopedias such as the *Britannica* and *International.*

Some of the publishers of educational books are given below; the houses which appear rather frequently in the role of educational publishers are indicated by an asterisk.

American Book Co., New York City.
*D. Appleton and Co., New York City.
A. S. Barnes and Co., New York City.
Bruce Publishing Co., Milwaukee, Wisconsin.
*The Century Co., New York City.
Thomas Y. Crowell, New York City.
Doubleday, Page and Co., Garden City, New York.
E. P. Dutton and Co., New York City.
*Ginn and Co., Boston.

*D. C. Heath and Co., Boston.
Henry Holt and Co., New York City.
*Houghton Mifflin Co., Boston.
*J. B. Lippincott Co., Philadelphia.
Little, Brown and Co., Boston.
*Macmillan Co., New York City.
*Public School Publishing Co., Bloomington, Illinois.
Rand, McNally and Co., Chicago.
Row, Peterson and Co., Chicago.
Chas. Scribner's Sons, New York City.
*Scott, Foresman and Co., Chicago.
*Silver, Burdett and Co., New York City.
*Teachers College, Columbia University, Bureau of Publications, New York City.
*University of Chicago Press, Chicago.
*Warwick and York, Inc., Baltimore, Maryland.
*World Book Co., Yonkers, New York.

Keeping Pace with Current Periodical Literature.—While it is hardly within the powers of a single individual to read all the periodicals of interest to workers in education, several useful means of keeping in touch with articles are available. The *Readers' Guide to Periodical Literature*, the *Loyola Educational Index* (discontinued after publication during 1928), the *Education Index*, and the *International Index to Periodicals* contain references to the contents of a number of important educational journals. The *Psychological Index*, the *Industrial Arts Index*, and the *Agricultural Index* are valuable lists of references in somewhat specialized fields, but of interest in the first instance to students of education and psychology, research workers, and investigators, in the second instance to industrial-arts workers, and in the last case to those in agricultural education. Two recently established periodicals of a rather distinctive character issue monthly digests of important magazine articles appearing during the preceding month. Both the *Loyola Educational Digest* (3441 North Ashland Avenue, Chicago,

Illinois,) and the *Teachers Journal and Abstract* (Greeley, Colorado,) have met with favorable receptions at the hands of the teaching profession. The annual or semi-annual indexes of educational periodicals are of assistance in locating material readily. Attention has been directed previously to the useful bibliographies of the United States Bureau of Education and to its frequently published lists of current educational literature.

Other Sources of Information.—Professor Alexander[27] has published a very useful bulletin of information, with special reference to administration, concerning educational books; public documents, national and state; publications of universities, educational institutions, and private foundations; periodical references; statistics, published and unpublished; bibliographies; etc. An especially helpful feature of the bulletin is the list of notes and bibliographies on individual items in administration, alphabetically arranged. Sources of information concerning many of the major problems of education are listed. Reference should be made to several other useful sources of information.[28]

[27] Carter Alexander and Others, *Educational Research.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. vi + 42.

[28] Claude C. Crawford, *The Technique of Study*, chapter x. Boston: Houghton Mifflin Co., 1928.

Harold O. Rugg, *Statistical Methods Applied to Education*, chapter ii. Boston: Houghton Mifflin Co., 1917.

Harold O. Rugg, "How to Keep in Touch with the Quantitative Literature of Education," *Elementary School Journal*, XVIII (December, 1927), 301–10.

L. Belle Voegelein, *List of Educational Subject Headings.* Columbus, Ohio: Ohio State University, 1928. Pp. xiv + 338.

Carter V. Good, *How to Do Research in Education*, chapter ii. Baltimore: Warwick and York, 1928.

Walter S. Monroe and Others, *Ten Years of Educational Research*, 1919–1927. University of Illinois Bulletin, Vol. XXV, No. 51. Urbana, Illinois: University of Illinois, 1928. Pp. 368.

Interest in College-, University-, and Normal-School Education.—It is significant that a number of universities are now offering work designed to provide professional training for teachers in colleges, normal schools, and other higher institutions of learning. One investigator reports that, according to their catalogues, the state universities of Arizona, Arkansas, California, Indiana, Minnesota, Nebraska, Ohio, Oklahoma, Oregon, Texas, and Washington have as a specific objective the training of normal-school teachers.[29] The same investigation indicates that the state universities of California, Indiana, Minnesota, Nebraska, Texas, and Washington, according to their catalogues, have as a specific objective the training of college and university teachers.

Attention should be called to the fact that only *state* universities were represented in the investigation to which reference has just been made. Of course, the work done by Teachers College of Columbia University, the University of Chicago, New York University, and George Peabody College for Teachers in the preparation of college and normal-school teachers is generally known in educational circles. An announcement from Teachers College, Columbia University, indicates that a scholarship fund for the summer session of 1928 was made available for college instructors interested in studying intensively the general problems involved in the organization and improvement of college teaching.

Harold Hench Bixler, *Check Lists for Educational Research.* New York: Bureau of Publications, Teachers College, Columbia University, 1928. Pp. xiv + 118.

John D. Wolcott, *Bibliography of Research Studies in Education, 1926–1927.* Bureau of Education Bulletin No. 22, 1928. Washington: Bureau of Education, 1929. Pp. viii + 162.

[29] J. O. Creager, "Varying Policies in Schools of Education in State Universities," *Educational Administration and Supervision,* XIV (February, 1928), 123–30.

Professional Courses for College Teachers.—It is of interest to examine a composite list of current teacher-training courses designed to improve teaching, organization, administration, and supervision at the level of higher education. Most of the courses in the following list were secured by a canvass of the catalogues of Teachers College of Columbia University, the University of Chicago, New York University, and George Peabody College for Teachers.[30]

A Composite List of Current Teacher-Training Courses Designed to Improve Teaching, Organization, Administration, and Supervision at the Level of Higher Education

1. The determination of curriculums for normal schools and teachers colleges.
2. The curriculums of university schools of education.
3. Organization of subject matter for teachers-college curriculums.
4. The technique of teaching in normal schools and teachers colleges.
5. Supervision and improvement of instruction in normal schools and teachers colleges.
6. The administration and supervision of academic work in colleges and universities.
7. Improvement of instruction in colleges and universities.
8. Training the teachers-college faculty in service.
9. Professional training of teachers-college faculties.
10. Methods of teaching in departments of education.
11. Teaching in laboratory schools and teacher-training institutions.
12. Supervision of laboratory schools and beginning teachers.

[30] For an account of the work of these four schools and of Ohio State and Minnesota see "Professional Courses in Higher Education," *Association of American Colleges Bulletin*, XIII (November, 1927), 356–63. Cornell, Harvard, Indiana, and Texas also offer similar courses.

13. Training-school problems.
14. Critic teaching.
15. The content and conduct of courses in "The Introduction to Education as a Profession."
16. Content and method of educational sociology in normal schools.
17. Psychology in teachers colleges.
18. The professional course in classroom management.
19. Materials of instruction.
20. Special methods courses devoted wholly or in part to problems of teaching at the level of higher education in one or more of the following great divisions of subject matter: art, commercial and business education, English, foreign languages, guidance, home economics, manual and industrial arts, mathematics, religious and character education, music, physical and health education, science, and the social studies.
21. The development and organization of junior colleges.
22. The development and organization of universities.
23. The organization and administration of city and state teachers colleges and normal schools.
24. The nature, organization, and control of higher education.
25. The financial administration of higher institutions.
26. College administration.
27. Problems of deans, registrars, other administrative officers, and faculty committees.
28. State policies and programs for the professional education of teachers.
29. Current problems for normal schools and teachers colleges.
30. Preparation of high-school teachers.
31. Research in the education of teachers.
32. Research in college and university administration.
33. Fundamentals of college and university education.
34. Policies in higher education.
35. Seminar in college personnel problems.
36. The history and philosophy of teacher training.

Types of Investigations in Higher Education.—A conception of the numerous fields of activity and experimentation in the college and university may be secured by examining the following classification of the literature

on college teaching. This is the classification used in the topical index of a bibliography to which reference has previously been made.[31] In compiling the bibliography preference was given to two types of material in the literature of the past ten years: (1) experimental investigations and factual reports, and (2) authoritative analyses and discussions of college teaching. The literature of college teaching falls rather naturally into nine divisions, although the writer has departed somewhat from this outline in arranging the material included in the various chapters of this book.

1. General analyses and discussions of college teachers and teaching; improvement of college teachers and teaching; scholarship, status, and training of college teachers; bibliographies on higher education.
2. Research problems, research and teaching, teaching load and time elements, size of class.
3. Teachers colleges, student teachers and practice-teaching, teacher-training programs and courses, education courses, educational terminology.
4. Problems of liberal-arts colleges, aims, curriculum, general program, higher and university education.
5. General methods of teaching, comprehensive treatments of method, scientific method, supervision, conduct of the class period, student reactions and interest.
6. Special problems and methods in the various subject-matter fields: foreign languages, science, social science, English and reading, mathematics, commercial subjects and business education, home economics, manual and industrial arts, music, art, health education.
7. How to study, methods of study, directing study, psychology of learning, orientation, guidance, freshman week, library usage, distribution of students' time.

[31] Carter V. Good, "Bibliography on College Teaching with Special Emphasis on Methods of Teaching," *Studies in Education*, pp. 66–95. Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

8. College entrance, psychological tests, prediction of success, failure and elimination, measurement of instruction, marks and examinations, diagnosis and remedial work.
9. Individualization of instruction, honors courses, the exceptional student, ability grouping.

Other Evidences of Interest and Sources of Information.—At this time it is possible only to call attention to certain types of activity which will be discussed at some length in subsequent appropriate chapters. Among these items are: techniques of research employed in the solution of problems of higher education and examples of these methods of investigation,[32] digests or summaries of completed educational investigations, illustrations of studies made in the various fields of college teaching,[33] experiments and types of reorganization under way, needed research in higher education, standardization of educational terminology,[34] etc.

The Student of Education Should Read Systematically and Keep an Organized Record of Such Reading.—The sources of information in education, as given in preceding sections of this chapter, may be of some service in indicating phases of education concerning which knowledge is necessary for well-rounded development. Of course it is to be expected that each worker has a special line of interest which consumes a major part of the available time and attention. Preceding portions of this chapter have suggested numerous journals, monograph series, bulletins and pamphlets, school-survey agencies, professional organizations and yearbooks, educational founda-

[32] Carter V. Good, *How to Do Research in Education*, chapter vi. Baltimore: Warwick and York, 1928.

[33] Carter V. Good, "The Literature on College Teaching," *School and Society*, XXVII (April 21, 1928), 481–7. The preceding list of teacher-training courses is included in this article.

[34] Carter V. Good, *How to Do Research in Education*, chapter iii. Baltimore: Warwick and York, 1928.

tions, and educational publishers with which the student of education should be familiar. The advantage of keeping a systematic record of one's reading will be recognized. Many workers have found cards preferable for use in filing away references and annotations. It may be emphasized that one should copy the complete reference with an adequate annotation at the time the material is read. Otherwise many valuable references escape one's memory and can with difficulty be relocated. No doubt many of the incomplete references found in educational publications are due to failure on the part of the author to use a little more time and care in copying the complete information at the time of the original reading.

Conclusion.—The writer is not unreasonable when he suggests that the student of higher education and the research worker and investigator should become familiar with the sources of educational information listed in this chapter. Such a statement does not mean that any single individual will read conscientiously or even skim rapidly all the sources of information mentioned. However, even though one may not have at tongue's end specific information on all educational problems that arise, he will be a much-respected and sought-after worker in education who knows *how* and *where* to locate desired information readily.

Supplementary References

Abel, J. F. *Major Trends of Education in Other Countries.* Bureau of Education Bulletin No. 13, 1928. Pp. 48. Includes a section on higher education.

Bingham, H. C. *Mechanical Aids for the Classification of American Investigators, with Illustrations in the Field of Psychology.* Bulletin of the National Research Council, Vol. IV, No. 22. Washington: National Academy of Science, 1922. Pp. 50.

Blose, D. T. *Statistics of Education of the Negro Race, 1925–1926.* Bureau of Education Bulletin No. 19, 1928. Washington: Bureau of Education. Pp. 42.

Borden, Fanny. *A List of References on College and University Government and Administration*, 1819–1920. Vassar College Bulletin, Vol. X, No. 3. Poughkeepsie, New York: Vassar College, 1921. Pp. 40.

Carlson, Pearl G. "Periodicals and Their Indexing," *Peabody Journal of Education*, VI (July, 1928), 30–2.
Lists and describes the various periodical indexes.

Collins, E. A. "Contributions to Educational Periodicals," *Peabody Journal of Education*, VI (March, 1929), 278–81.

Colwell, N. P. *Medical Education*, 1924–1926. Bureau of Education Bulletin No. 9, 1927. Washington: Bureau of Education. Pp. 14.

Eells, W. C. "What Professional Magazines Do Prospective Educators Read?" *School and Society*, XXIX (April 6, 1929), 446–8.
Includes a classification, by journals represented, of 2,500 articles read by 115 students at Stanford University in twenty-eight journals which were represented by twenty or more articles.

Greenleaf, W. J. *Land-Grant Colleges Year Ended June* 30, 1925. Bureau of Education Bulletin No. 44, 1925. Washington: Bureau of Education. Pp. vi + 70.

Halle, Rita S. *Which College?* New York: Macmillan Co., 1928. Pp. xx + 268.

Ho, Ching-Ju. *Personnel Studies of Scientists in the United States.* Teachers College Contributions to Education, No. 298. New York: Teachers College, Columbia University, 1928. Pp. 60.
Includes an analysis of the vocational histories of prominent American psychologists.

Hockett, J. A. "The Literature of Curriculum-Making: A Selected and Annotated Bibliography," *Curriculum-Making: Past and Present*, pp. 449–75. Twenty-Sixth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1926.
Covers the period, 1900–1926.

Hughes, R. M., and Others. *A Study of the Graduate Schools of America.* Oxford, Ohio: Miami University, 1925. Pp. 32.

Hurt, H. W. *The College Blue Book.* Vol. 1, Colleges of Liberal Arts and Sciences (1923). Vol. II, Professional and Technical Education (1924). Vol. III, Music and Fine Arts (1925). Chicago: College Blue Book.

John, W. C. *Land-Grant College Education* 1910–1920: Part V, Home Economics. Bureau of Education Bulletin No. 29, 1925. Washington: Bureau of Education. Pp. iv + 92.

Kelly, R. L., and Anderson, Ruth E. *Handbook of Christian Education.* New York: Council of Church Boards of Education, 1928. Pp. 200.

Klein, A. J. *Higher Education: Biennial Survey* 1924–1926. Bureau of Education Bulletin No. 34, 1927. Washington: Bureau of Education. Pp. 46.

McKee, Paul. "Books and Pamphlets Received December 1, 1927, to September 1, 1928," *Teachers Journal and Abstract,* III (September, 1928), 436–43.
Publications are grouped according to the various fields represented.

McKenzie, Kenneth. *Opportunities for Higher Education in Italy.* New York: Institute of International Education, 1921. Pp. 62.

MacLean, G. E. *Opportunities for Graduate Study in the British Isles.* New York: Institute of International Education, 1920. Pp. 40.

Massey, Vincent. "The Colleges of Canada," *School and Society,* XXIX (March 23, 1929), 369–74.

Mead, A. R. "An Annotated List of Manuals and Guides for Observation, Participation, and Supervised Student Teaching," *Educational Administration and Supervision,* XV (January, 1929), 47–51.

Mead, A. R. "A Bibliography on Supervised Student-Teaching, Observation of Teaching, Problems of Laboratory Schools in Teacher-Preparing Institutions, and Closely Related Material," February, 1926. Pp. 92. (Mimeographed by author.)
Covers the period, 1898–1926.

Meyer, M. F. "The Interest in Psychology Displayed by Various University Administrations," *School and Society,* XXVII (June 30, 1928), 787–8.
A list of universities together with the number of instructors belonging to the American Psychological Association.

Phillips, F. M. *Statistical Survey of Education* 1925–26. Bureau of Education Bulletin No. 12, 1928. Washington: Bureau of Education. Pp. 14.

Phillips, F. M. *Statistics of Nurse Training Schools* 1926–27. Bureau of Education Bulletin No. 2, 1928. Washington: Bureau of Education. Pp. 58.

Phillips, F. M. *Statistics of Private Commercial and Business Schools* 1924–1925. Bureau of Education Bulletin No. 14, 1926. Washington: Bureau of Education. Pp. 30.

Phillips, F. M. *Statistics of Teachers Colleges and Normal Schools* 1925–1926. Bureau of Education Bulletin No. 30, 1927. Washington: Bureau of Education. Pp. 66.

Proffitt, M. M. *Industrial Education in* 1924–1926. Bureau of Education Bulletin No. 29, 1927. Washington: Bureau of Education. Pp. 30.

Robertson, D. A. *American Universities and Colleges.* New York: Charles Scribner's Sons, 1928. Pp. xii + 884.

Teagarden, Florence M. "Bibliography of Professional Codes of Ethics for Educators," *School and Society,* XX (November 8, 1924), 599–601.
Covers the period, 1910–1924.

Walters, Raymond. "Statistics of Registration in Canadian Universities," *School and Society,* XXIX (March 23, 1929), 375–9.

Wolcott, J. D. *Bibliography of Research Studies in Education,* 1926–1927. Bureau of Education Bulletin No. 22, 1928. Washington: Bureau of Education, 1929. Pp. viii + 162.
Includes 1,540 items.

Zook, G. F., and Capen, S. P. *Opportunities for Study at American Graduate Schools.* Bureau of Education Bulletin No. 6, 1921. Washington: Bureau of Education. Pp. 60.

Accredited Higher Institutions. Bureau of Education Bulletin No. 41, 1927. Washington: Bureau of Education. Pp. vi + 40.

"Bibliography on Academic Freedom," *Association of American Colleges Bulletin,* XIV (December, 1928), 541–3.

Education Index, I (March, 1929), xvi + 136.
Includes a directory of educational publishers; list of periodicals indexed; checklists of professional books, instructional materials, institutional publications, association and foundation publications, and documents; cumulative author and subject index of periodical literature; and a list of book reviews.

List of References on Education of Women in the United States. Bureau of Education Library Leaflet No. 19, 1923. Washington: Bureau of Education. Pp. 8.
Covers the period, 1894–1923.

National Catholic Welfare Conference Bureau of Education, 1928 *Directory of Catholic Colleges and Schools.* Washington: National Catholic Welfare Conference Bureau of Education, 1928. Pp. 592.

Statistics of Universities, Colleges and Professional Schools 1925–26. Bureau of Education Bulletin No. 40, 1927. Washington: Bureau of Education. Pp. 168.

Chapter II

STATUS OF COLLEGES, STUDENTS, AND TEACHERS

Introductory Statement.—In chapter i the reader has been referred to numerous sources of information from which may be secured the facts concerning problems of higher education. It seems appropriate at this time to mention specifically certain contributions which provide an initial orientation with respect to the status of colleges, students, and teachers: American versus European education, surveys of current problems, resumés of progress effected, opportunities for study at home and abroad, and detailed handbooks of information concerning colleges; statistics of registration and enrollment, occupational destination of college students, economic and social status, professional and geographic distribution, and degrees granted and output of the college; selection and promotion of teachers, training and scholarship, salaries, teaching load and distribution of time, size of class, tenure, and retirement and pensions; and terminology in higher education.

American and European Higher Education.—The Bureau of Education has prepared a brief survey of higher education during the biennium, 1924–1926, which discusses the following topics: objectives, attendance, costs, public pressure through political action, cultural versus vocational aims, scientific method, better educational service to the individual, student relations and welfare, teaching, student quality, and intensification of

the educational process. The bulletin closes with the statement that higher education in the United States is in a state of flux:[1]

> The imperative necessity for higher education to readjust itself to the social and economic structure of the Nation is receiving attention, but scientific study and research, now so generally given to details of methods and procedures in higher institutions, are little used in defining the larger objectives and relationships of institutional service. In general, higher education is receptive to changes in method, in content, and in procedure, but little evidence exists of the development of general educational philosophies to which specific problems may be related.

An interesting publication of the Carnegie Foundation for the Advancement of Teaching is a severe criticism of American secondary education.[2] It compares the United States with Prussia, England, and France with respect to the quality of secondary education and the quality of education for intellectual pursuits. It will be recognized that this discussion is applicable to a considerable extent to the junior college and higher education, since European secondary education includes approximately the equivalent of the freshman and sophomore years in American colleges. The report is especially critical of the large size of American high schools, their

[1] Arthur J. Klein, *Higher Education: Biennial Survey* 1924–1926, p. 46. Bureau of Education Bulletin No. 34, 1927. Washington: Bureau of Education.

Also see James F. Abel, *Major Trends of Education in Other Countries.* Bureau of Education Bulletin No. 13, 1928. Washington: Bureau of Education. Pp. 48.

[2] William S. Learned, *The Quality of the Educational Process in the United States and in Europe.* Carnegie Foundation for the Advancement of Teaching Bulletin, No. 20. New York: Carnegie Foundation for the Advancement of Teaching, 1927. Pp. x + 134.

non-selective character, and the great diversity of curriculums. However, a pointed editorial,[3] presumably by Professor Judd, takes issue with these indictments. Judd refutes at length the arguments of Learned's report in the 1928 Inglis Lecture.[4] His final plea is for a system of secondary education which has universal accessibility and maximum flexibility, an enriched curriculum, local control guided by science, and the most highly trained leaders that can be provided.

In the 1927 Inglis Lecture, Flexner compares American and European conceptions of the value of education and the status of the professor in a manner unfavorable to higher education in this country.[5] In the beginning he rather leads the reader to think that Americans place a high value on education by pointing to compulsory-attendance provisions, the small amount of illiteracy among native-born whites, the enormous expansion of high schools and colleges, and the great endowments for higher institutions of learning. Some interesting figures on the increase in enrollment and endowment of higher institutions are quoted. The author infers from the facts presented that Americans value: (1) the kind of fair play which gives every boy or girl, who has any ability at all, some chance at school through the adolescent period, (2) literacy as against illiteracy, (3) youth and hesitate to bring it to an early termination either by

[3] "Secondary Education in the United States and in Europe," *School Review*, XXXV (September, 1927), 481–3.

[4] Charles H. Judd, "The Unique Character of American Secondary Education," *School Review*, XXXVI (February, 1928), 95–117.

[5] Abraham Flexner, *Do Americans Really Value Education?* The Inglis Lecture, 1927. Cambridge, Massachusetts: Harvard University Press, 1927. Pp. 50. The summary is adapted from the writer's book review in *Educational Administration and Supervision*, XIV (February, 1928), 137–8.

shunting boys and girls into deadening occupations or by subjecting them to serious intellectual effort as an essential part of the higher educational process, and (4) to some extent intelligence and training. It is with the last factor of scholarship and sustained intellectual application that the lecture is largely concerned. Two tests are suggested for determining whether Americans value severe intellectual effort: (1) the esteem in which the scholar is held, and (2) the effort made to surround the scholar with conditions favorable to intellectual activity. It is pointed out that the college professor does not rank, in the opinion of his family and the public, as high as the college executive or administrator, nor is the American professor held in the high esteem accorded the European scholar. Teaching is contrasted with law, medicine, and corporation administration where every effort is made to attract able men to posts of importance (this means adequate salaries and fees) and to make the work of such men effective by providing every variety of clerical, secretarial, and mechanical aid. The lecture is a thought-provoking indictment of America's failure to lay proportionate emphasis on scholarship and sustained intellectual effort. However, the author finds evidence of an interest in scholarship, and encouragement, in such institutions as the Inglis Lectureship. The present writer finds additional evidence of real interest in, and encouragement of, intellectual effort in the activities of such organizations as those listed in the preceding chapter.

General Discussions and Surveys of Problems in Higher Education.—Space is available only for mentioning certain major publications which should provide the reader with the necessary orientation concerning current problems and developments in colleges and universities. Kandel has provided a general overview of developments

in education during the first quarter of the present century.[6] R. L. Kelly has assembled a series of discussions by American students of higher education, including treatments of: ideals, curriculum, faculty-student relationships, teaching, scholarship, music, arts of design, religion, finance, and future outlook.[7] Hudelson has edited a series of studies in administration, student personnel, curriculum, and instruction prepared by twenty-five authors.[8] Koos is the author of a classic study of the junior college, and Whitney reports a recent study of this institution.[9] Proctor has edited a publication, prepared by eleven men actively interested in the junior college, including discussions of aims, organization, faculty, curriculum, administration, student activities, cooperative part-time work, etc.[10] F. J. Kelly is the author of a well-known survey of the liberal-arts college.[11] Hill reports the progress of a decade in

[6] I. L. Kandel, *Twenty-Five Years of American Education.* New York: Macmillan Co., 1924. Pp. 458.

[7] Robert Lincoln Kelly, *The Effective College.* New York: Association of American Colleges, 1928. Pp. xii + 302.

[8] Earl Hudelson, *Problems of College Education.* Minneapolis, Minnesota: University of Minnesota Press, 1928. Pp. xviii + 450.

[9] L. V. Koos, *The Junior College.* Research Publications of the University of Minnesota, Education Series, No. 5. Minneapolis, Minnesota: University of Minnesota, 1924. 2 Vols.

L. V. Koos, *The Junior College Movement.* Boston: Ginn and Co., 1925. Pp. 436.

Frederick L. Whitney, *The Junior College in America.* Colorado Teachers College Education Series, No. 5. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. xxii + 258.

[10] W. M. Proctor, *The Junior College:* Its Organization and Administration. Stanford University, California: Stanford University Press, 1927. Pp. x + 226.

[11] Frederick J. Kelly, *The American Arts College.* New York: Macmillan Co., 1925. Pp. xiv + 198.

Missouri teacher-training institutions.[12] R. L. Kelly presents a brief statement of the experimental work being done in approximately fifty institutions[13] and summarizes the outstanding characteristics of thirteen Minnesota colleges.[14] Mann lists the colleges surveys which the Association of American Colleges had in progress at the time of the commission's report.[15] A brief statement summarizes the results of a survey of seventy-nine negro institutions.[16]

Illustrative Studies and Surveys of Specific Problems in the Teacher-Training Field.—The preceding paragraph has referred to a number of studies most of which are concerned particularly with the liberal-arts institution. It now seems fitting to cite a few illustrative investigations and surveys of definite problems in the teacher-training field. Again it is possible, in the limited space available, only to call attention to studies without comment. The reader should find it profitable to examine a number of these investigations in order to secure an overview of the multitudinous problems in the field of teacher training. First may be mentioned several somewhat general surveys of teacher-training issues:

[12] Clyde Milton Hill, *A Decade of Progress in Teacher Training.* Teachers College Contributions to Education, No. 233. New York: Teachers College, Columbia University, 1927. Pp. 220.

[13] Robert L. Kelly, "The Colleges as Educational Laboratories," *Association of American Colleges Bulletin,* XIII (November, 1927), 322–47.

[14] Robert L. Kelly, "The Minnesota Colleges, Their Contribution to Society," *Association of American Colleges Bulletin,* XIV (May, 1928), 247–306.

[15] Charles R. Mann, "Report of the Commission on Educational Surveys, "*Association of American Colleges Bulletin,* XIV (March, 1928), 128–37; XV (March, 1929), 115-22.

[16] John H. McNeely, "Higher Education of Negroes is Making Marked Progress," *School Life,* XIV (October, 1928), 37.

scholarship and preparation of public-school teachers,[17] organization of teacher-training curriculums,[18] summer schools,[19] location of normal schools,[20] and student teaching and the training supervisor.[21] Illustrative

[17] E. A. Fitzpatrick and P. W. Hutson, *The Scholarship of Teachers in Secondary Schools.* New York: Macmillan Co., 1927. Pp. 208.

W. S. Learned and Others, *The Professional Preparation of Teachers for American Public Schools.* New York: Carnegie Foundation for the Advancement of Teaching, 1920. Pp. 476.

F. L. Whitney, *The Intelligence, Preparation, and Teaching Skill of State Normal School Graduates in the United States.* Minneapolis, Minnesota: University of Minnesota, 1923.

Katherine M. Cook, *Professional Preparation of Teachers for Rural Schools.* Bureau of Education Bulletin No. 6, 1928. Washington: Bureau of Education. Pp. vi + 72.

[18] J. B. Edmonson and A. H. Webster, *Policies and Curricula of Schools of Education in State Universities.* Bureau of Education Higher Education Circular No. 30, 1925. Washington: Bureau of Education. Pp. 32.

T. H. Napier, *Trends in the Curricula for Training Teachers.* Peabody Contributions to Education, No. 27. Nashville, Tennessee: George Peabody College for Teachers, 1926.

A. L. Hall-Quest, *Professional Secondary Education in Teachers Colleges.* Teachers College Contributions to Education, No. 169. New York: Teachers College, Columbia University, 1925. Pp. 126.

[19] C. D. Judd, *The Summer School as an Agency for the Training of Teachers in the United States.* Peabody Contributions to Education, No. 3. Nashville, Tennessee: George Peabody College for Teachers, 1919.

J. E. Avent, *The Summer Sessions in State Teachers Colleges as a Factor in the Professional Education of Teachers.* Richmond, Virginia: William Byrd Press, 1925. Pp. 394.

[20] H. C. Humphreys, *The Factors Operating in the Location of State Normal Schools.* Teachers College Contributions to Education, No. 142. New York: Teachers College, Columbia University, 1923. Pp. 152.

[21] W. D. Armentrout, *The Conduct of Student Teaching in State Teachers Colleges.* Colorado Teachers College Education Series,

studies of the teacher-training situation in the states of Arkansas, Missouri, Ohio, South Carolina, Vermont, and Pennsylvania may also be mentioned.[22] Of late a number of significant investigations have been made of teacher training in the various subject-matter fields: science,[23] social studies,[24] English,[25] foreign language,[26] physical education,[27] industrial arts,[28] and agriculture.[29]

No. 2. Greeley, Colorado: Colorado State Teachers College 1927. Pp. viii + 198.

Noble Lee Garrison, *Status and Work of the Training Supervisor.* Teachers College Contributions to Education, No. 280. New York: Teachers College, Columbia University, 1927. Pp. viii + 98.

[22] J. R. Grant, *A Teacher-Training Program for Arkansas.* Peabody Contributions to Education, No. 18. Nashville, Tennessee: George Peabody College for Teachers, 1925.

Clyde Milton Hill, *A Decade of Progress in Teacher Training.* Teachers College Contributions to Education, No. 233. New York: Teachers College, Columbia University, 1927. Pp. 220.

Alonzo Franklin Meyers, *A Teacher-Training Program for Ohio.* Teachers College Contributions to Education, No. 266. New York: Teachers College, Columbia University, 1927. Pp. 144.

B. L. Parkinson, *Professional Preparation and Certification of White Elementary and Secondary Public-School Teachers in South Carolina.* Peabody Contributions to Education, No. 29. Nashville, Tennessee: George Peabody College for Teachers, 1926.

R. M. Steele, *A Study of Teacher Training in Vermont.* Teachers College Contributions to Education, No. 243. New York: Teachers College, Columbia University, 1926. Pp. 112.

W. S. Taylor, *The Development of the Professional Education of Teachers in Pennsylvania.* Philadelphia: J. B. Lippincott Co., 1924. Pp. 294.

[23] C. W. Finley, *Biology in Secondary Schools and the Training of Biology Teachers.* Teachers College Contributions to Education, No. 199. New York: Teachers College, Columbia University, 1926. Pp. 80.

Alice Maria Van De Voort, *The Teaching of Science in Normal Schools and Teachers Colleges.* Teachers College Contributions to

Descriptions of Higher Institutions of Learning and the Opportunities Available.—Valuable handbooks of

Education, No. 287. New York: Teachers College, Columbia University, 1928. Pp. iv + 96.

[24] Earle U. Rugg and Ned H. Dearborn, *The Social Studies in Teachers Colleges and Normal Schools.* Colorado Teachers College Education Series, No. 4. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. viii + 162.

[25] Ida M. Jewett, *English in State Teachers Colleges:* A Catalogue Study. Teachers College Contributions to Education, No. 286. New York: Teachers College, Columbia University, 1927. Pp. viii + 176.

Leon R. Meadows, *A Study of the Teaching of English Composition in the Teachers Colleges of the United States.* Teachers College Contributions to Education, No. 311. New York: Teachers College, Columbia University, 1928. Pp. 96.

[26] H. Stuart, *The Training of Modern Foreign Language Teachers for the Secondary Schools in the United States.* Teachers College Contributions to Education, No. 256. New York: Teachers College, Columbia University, 1927. Pp. x + 112.

C. A. Wheeler and Others, *Enrollment in Foreign Languages in Secondary Schools and Colleges of the United States.* Vol. IV of the Modern Foreign Language Study. New York: Macmillan Co., 1928. Pp. xxii + 454.

C. M. Purin, *The Training of Teachers of the Modern Foreign Languages.* Vol. XIII of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

[27] Ruth Elliott, *The Organization of Professional Training in Physical Education in State Universities.* Teachers College Contributions to Education, No. 268. New York: Teachers College, Columbia University, 1927. Pp. viii + 68.

Georgia Borg Johnson, *Organization of the Required Physical Education for Women in State Universities.* Teachers College Contributions to Education, No. 253. New York: Teachers College, Columbia University, 1928. Pp. viii + 172.

Marie M. Ready, *Physical Education in American Colleges and Universities.* Bureau of Education Bulletin No. 14, 1927. Washington: Bureau of Education. Pp. vi + 52.

[28] Fred Strickler, *The Training and Experience of* 480 *Industrial Arts Teachers.* New York: Teachers College, Columbia University, 1927. Pp. 116.

reference are now available for those who wish easily accessible information with respect to institutions of higher education. Attention may be directed to three of these manuals of information concerning colleges and universities. Hurt lists in detail in his first volume the standards of colleges, negro colleges, and junior colleges, and presents elaborate statistical data for each of these types of institutions.[30] His plan is to revise the volumes triennially.

Robertson presents in one volume a reliable picture of the present resources of universities and colleges in the United States; attention should also be called to directories of Catholic colleges and of Christian education.[31] In Part I Robertson includes information

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[29] A. V. Storm, *How the Land-Grant Colleges Are Preparing Special Teachers of Agriculture.* Peabody Contributions to Education, No. 5. Nashville, Tennessee: George Peabody College for Teachers, 1920. Pp. 136.

Teacher Training in Agriculture: Status, Development, and Methods in the Field of Teacher Training. Bureau of Education Bulletin No. 94, 1924, Agricultural Series, No. 20. Washington: Bureau of Education.

E. L. Holton, *A Study of the Professional Training of Teachers of Vocational Agriculture.* Federal Board of Vocational Education Bulletin, No. 122, Agricultural Series, No. 33. Washington, 1927. Pp. 68.

[30] Huber William Hurt, *The College Blue Book.* Vol. I, Colleges of Liberal Arts and Sciences (1923). Vol. II, Professional and Technical Education (1924). Vol. III, Music and Fine Arts (1925). Chicago: College Blue Book.

[31] David Allen Robertson, *American Universities and Colleges.* New York: Charles Scribner's Sons, 1928. Pp. xii + 884.

National Catholic Welfare Conference Bureau of Education, 1928 *Directory of Catholic Colleges and Schools.* Washington: National Catholic Welfare Conference Bureau of Education, 1928. Pp. 592.

Robert L. Kelly and Ruth E. Anderson, *Handbook of Christian Education.* New York: Council of Church Boards of Education, 1928. Pp. 200.

which enables the reader to understand the organization of education in the United States and the character and relations of college, university, professional school, and graduate school of arts and sciences. Part II contains an exhibit of the general character and resources of each of the universities and colleges on the accredited list of the American Council on Education in 1927.

Halle has prepared a manual of information designed particularly for the benefit of parents and students who must make a choice with respect to a college.[32] The colleges and universities described were taken from the accredited lists of the Association of American Universities and the several regional associations.

Hughes reports an interesting attempt to evaluate the graduate schools of America by means of a questionnaire sent to specialists who rated the graduate schools in their respective fields.[33] Other sources of information are available concerning the opportunities for graduate work at home and abroad.[34] Zook and Capen classify their information according to the schools which offer graduate training.

[32] Rita S. Halle, *Which College?* New York: Macmillan Co., 1928. Pp. xx + 268.

[33] R. M. Hughes and Others, *A Study of the Graduate Schools of America.* Oxford, Ohio: Miami University, 1925. Pp. 32.

[34] G. F. Zook and S. P. Capen, *Opportunities for Study at American Graduate Schools.* Bureau of Education Bulletin No. 6, 1921. Washington: Bureau of Education. Pp. 60.

G. E. MacLean, *Opportunities for Graduate Study in the British Isles.* New York: Institute of International Education, 1920. Pp. 40.

R. M. Wenley, "British Degrees for Americans," *Bulletin of the American Association of University Professors,* XIV (April, 1928), 251–6.

Kenneth McKenzie, *Opportunities for Higher Education in Italy.* New York: Institute of International Education, 1921. P.p. 62

The reader may be referred to chapter i, which contains a statement concerning the various educational directories, for additional information concerning higher institutions of learning. This statement may be recapitulated to the extent of suggesting that the annual directory of the United States Bureau of Education and publications of various national and regional accrediting associations contain facts of interest to college workers. Attention should be directed to a bulletin[35] which contains a list of colleges, junior colleges, and teacher-training institutions accredited by national and regional associations and a classification of professional schools (medicine, dentistry, pharmacy, law, and library).

Statistics of Registration and Enrollment.—Table I shows school and college enrollments, according to public and private control, for 1925–26. The bulletin from which this table was taken indicates that in the United States there are 402 teacher-training institutions and 975 colleges and universities.[36] Comparisons may be made, from the data in Table I, between the enrollments in the various divisions of the school system—elementary, secondary, and higher.

Interesting figures are available with respect to size of the universities in this country. Table II shows both total enrollment and rank in size of twenty-six institutions.[37] The report covers statistics of registration for

[35] *Accredited Higher Institutions.* Bureau of Education Bulletin No. 41, 1927. Washington: Bureau of Education. Pp. vi + 40.
Also "Accredited Higher Institutions," *Educational Record,* X (April, 1929), 132–49.

[36] Frank M. Phillips, *Statistical Survey of Education* 1925–26. Bureau of Education Bulletin No. 12, 1928. Washington: Bureau of Education. Pp. 14.

[37] Raymond Walters, "Statistics of Registration in American Universities and Colleges, 1928," *School and Society,* XXVIII (December 15, 1928), 737–46.

TABLE I.—SCHOOL AND COLLEGE ENROLLMENTS, ACCORDING TO PUBLIC AND PRIVATE CONTROL, 1925–26

Schools	Public	Private	Total
Kindergartens	673,231	54,456*	727,687
Elementary schools (primary and grammar)	20,310,771	2,088,644	22,399,415
City schools (included with elementary and high)	11,714,231	.....	11,714,231
Total elementary and kindergarten enrollment	20,984,002	2,143,100	23,127,102
Secondary (high schools and academies)	3,757,466	295,625	4,053,091
Preparatory departments of colleges	10,456	45,176	55,632
Secondary courses in normal schools and teachers colleges	18,149	5,253	23,402
Total secondary students	3,786,071	346,054	4,132,125
Teachers colleges	161,655	6,207	167,862
Normal schools (not in secondary courses)	91,252	11,092	102,344
Total normal schools and teachers colleges	252,907	17,299	270,206
Universities, colleges, and professional schools (not including preparatory)	280,437	486,826	767,263
Industrial schools for delinquents, 1927	84,317	.....	84,844
Schools for the deaf, 1927	16,563	933	17,496
Schools for the blind, 1927	6,084	.....	6,084
Schools for the feeble-minded and subnormal, 1927	101,605	2,416	104,021
Schools for Indians†	23,238	5,920	29,158
Government schools in Alaska	3,703	.....	3,703
Other public schools in Alaska	4,352	.....	4,352
Commercial and business schools, 1925	.....	188,363	188,363
Total, excluding duplicates	25,487,950	3,190,911	28,678,861‡
All schools in the outlying parts of the United States (not including above)	1,404,678	92,241	1,496,928

* 1924 figures.

† Average attendance; does not include 37,730 pupils in public day schools.

‡ The grand total of enrollments in all types of schools mentioned in this report is 31,037,736.

1928 in 216 colleges and universities of the United States and Canada which are on the approved list of the Association of American Universities.

TABLE II.—ENROLLMENT AND RANK IN SIZE OF TWENTY-SIX HIGHER INSTITUTIONS

University	Regular Students Full-time	Rank	All Resident Students	Rank
California	17,337	1	26,562	3
Columbia	13,691	2	32,036	1
Illinois	12,150	3	13,010	7
Minnesota	11,815	4	17,856	5
Michigan	10,954	5	12,890	9
New York University	10,711	6	26,303	4
Ohio State University	10,293	7	12,662	11
Wisconsin	9,042	8	12,939	8
Boston University	8,520	9	12,234	13
Harvard	8,110	10	10,793	16
University of Washington	7,282	11	10,339	17
Pennsylvania	6,711	12	14,844	6
Pittsburgh	6,235	13	12,674	10
Nebraska	6,235	14	8,897	19
Texas	5,794	15	8,259	20
Chicago	5,628	16	12,662	12
Northwestern	5,559	17	12,038	14
Cornell	5,315	18	7,465	23
Syracuse	5,188	19	6,882	24
Iowa	5,047	20	8,026	21
Yale	4,990	21	5,743	
College of the City of New York	4,929	22	28,287	2
Oklahoma	4,604	23	6,664	25
Cincinnati	4,297	24	10,328	18
Fordham	4,175	25	7,859	22
Western Reserve	3,356	..	10,832	15

Reference should be made to several bulletins of the Bureau of Education which contain information of interest to workers in the field of higher education. Data are available with respect to number of institutions,

number of instructors, number of students, degrees granted, property, receipts, junior colleges, and benefactions in universities, colleges, and professional schools;[38] teachers colleges and normal schools;[39] private commercial and business schools;[40] nurse training schools;[41] land-grant colleges and home economics;[42] industrial education;[43] medical education;[44] and physical education.[45] Other recent bulletins of the United States Bureau of Education are listed in chapter i.

[38] *Statistics of Universities, Colleges and Professional Schools* 1925–26. Bureau of Education Bulletin No. 40, 1927. Washington: Bureau of Education. Pp. 168.

[39] Frank M. Phillips, *Statistics of Teachers Colleges and Normal Schools* 1925–1926. Bureau of Education Bulletin No. 30, 1927. Washington: Bureau of Education. Pp. 66.

[40] Frank M. Phillips, *Statistics of Private Commercial and Business Schools* 1924–1925. Bureau of Education Bulletin No. 14, 1926. Washington: Bureau of Education. Pp. 30.

[41] Frank M. Phillips, *Statistics of Nurse Training Schools* 1926–27. Bureau of Education Bulletin No. 2, 1928. Washington: Bureau of Education. Pp. 58.

[42] Walter J. Greenleaf, *Land-Grant Colleges Year Ended June* 30, 1925. Bureau of Education Bulletin No. 44, 1925. Washington: Bureau of Education. Pp. vi + 70.

Walton C. John, *Land-Grant College Education* 1910–1920: Part V, Home Economics. Bureau of Education Bulletin No. 29, 1925. Washington: Bureau of Education. Pp. iv + 92.

[43] Maris M. Proffitt, *Industrial Education in* 1924–1926. Bureau of Education Bulletin No. 29, 1927. Washington: Bureau of Education. Pp. 30.

Maris M. Proffitt, *Private and Endowed Schools Offering Trade and Industrial Courses.* Bureau of Education Bulletin No. 18, 1928. Washington: Bureau of Education. Pp. iv + 50.

[44] N. P. Colwell, *Medical Education,* 1924–1926. Bureau of Education Bulletin No. 9, 1927. Washington: Bureau of Education. Pp. 14.

[45] Marie M. Ready, *Physical Education in American Colleges and Universities.* Bureau of Education Bulletin No. 14, 1927. Washington: Bureau of Education. Pp. vi + 52.

Social, Economic, Professional, and Geographic Distribution of College Students, Occupational Destination, Degrees Conferred.—Reynolds reports a study of college students which covers parental occupation, parental incomes, self-support, nativity, size of families, education of parents, affiliations of students, and student residence.[46] Seventy-six per cent of the fathers of the students represented are engaged in four occupational groups, namely, proprietary service, agricultural service, professional service, and managerial service. The median family income reported is $3,129.60. The study indicates that 45.35 per cent of the students earn no part of their college expenses, nearly 13 per cent are wholly self-supporting, while approximately 25 per cent earn as much as one-half of the total expenses. It is a striking fact that 98 per cent of the undergraduate student body are native born, while 87.69 per cent of the fathers and 90.39 per cent of the mothers are native born. The median-sized family was found to be 3.77 children. With respect to parental education, 33.16 per cent of the fathers and 31.28 per cent of the mothers received only some form of elementary education; 26.69 per cent of the fathers and 32 per cent of the mothers graduated from high school; and 28.06 per cent of the men and 16.55 of the mothers attended college.

Zook shows the proportion of the population of each state in college, the extent to which students migrate for a college education, proportion of college and university enrollments residing in the state, proportion of foreign students, and classification of students according to type of work pursued (graduate, liberal arts and

[46] O. Edgar Reynolds, *The Social and Economic Status of College Students.* Teachers College Contributions to Education, No. 272. New York: Teachers College, Columbia University, 1927. Pp. vi + 58.

science, engineering, agricultural, commerce and business, medical, dental, pharmacy, law, and theological).[47] Meyer investigated the professional and occupational distribution of the graduates of 269 American colleges for the first quarter of the present century.[48] Haggerty[49] and Charters[50] emphasize the fact that approximately 75 per cent of our Doctors of Philosophy become teachers and urgently recommend that adequate training in methods and principles of college teaching be provided in the graduate school. Stalnaker and Remmers conclude that large colleges and universities have an advantage over small institutions in that a larger proportion of their graduates are leaders, when leadership is measured by appearance as a starred scientist in *American Men of Science* or by appearance in *Who's Who in America*.[51]

Reference to certain other sources of information concerning the product of higher institutions of learning and the degrees conferred seems appropriate at this time. Advisers, teachers, and administrative officers who deal with college students should find the data included in the following publications of some value for purposes of guidance. A Bureau of Education bulletin

[47] G. F. Zook, *Residence and Migration of University and College Students*. Bureau of Education Bulletin No. 11, 1926. Washington: Bureau of Education. Pp. 128.

[48] Jacob G. Meyer, *Small Colleges and Teacher Training*. Bloomington, Illinois: Public School Publishing Co., 1928. Pp. vi + 162.

[49] M. E. Haggerty, "Occupational Destination of Ph.D. Recipients," *Educational Record*, IX (October, 1928), 209–18.

[50] W. W. Charters, "Graduate Schools and College Teaching," *Educational Research Bulletin*, VII (November 14, 1928), 348–9. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

[51] John M. Stalnaker and H. H. Remmers, "The Large College vs. the Small," *School and Society*, XXVIII (September 8, 1928), 302–4.

summarizes its data concerning degrees conferred by universities, colleges, and professional schools by these statements: in 1926 of the degrees granted 71,529 were baccalaureate, 20,096 professional, 11,451 graduate, 1,214 honorary, and 1,302 the Ph. D.[52] Another bulletin which gives similar information for teachers colleges and normal schools indicates that in 1925–26 there were 47,310 graduates from normal courses; presumably this number includes those who finished a four-year course with a degree.[53] Other available information of a related nature deals with the number of graduate degrees conferred by schools belonging to the North Central Association,[54] age of graduation and the Ph. D.,[55] and supply and demand in teacher training.[56]

Selection and Promotion of College Teachers.—Linscheid reports interesting facts concerning the selection of teachers for state teachers colleges.[57] The following plans indicate the procedures employed by presidents

[52] *Statistics of Universities, Colleges and Professional Schools* 1925–26. Bureau of Education Bulletin No. 40, 1927. Washington: Bureau of Education. Pp. 168.

[53] *Frank M. Phillips, Statistics of Teachers Colleges and Normal Schools* 1925–1926. Bureau of Education Bulletin No. 30, 1927. Washington: Bureau of Education. Pp. 66.

[54] R. M. Hughes, "Graduate Degrees Conferred by Colleges and Universities Accredited by the Association," *North Central Association Quarterly*, I (March, 1927), 421–7.

[55] E. Earle Franklin, "Age of Graduation and the Ph. D.," *School and Society*, XXVIII (August 11, 1928), 182–4.

[56] B. R. Buckingham, *Supply and Demand in Teacher Training.* Bureau of Educational Research Monographs, No. 4. Columbus, Ohio: Ohio State University, 1926. Pp. 182.

Carter Alexander, "Field versus Institutional Careers," *Phi Delta Kappan*, XI (February, 1929), 144–5.

[57] Adolph Linscheid, *In-Service Improvement of the State Teachers College Faculty*, chapter ii. Teachers College Contributions to Education, No. 309. New York: Teachers College, Columbia University, 1928. Pp. 100.

of state teachers colleges in selecting new members of the staff; the first numeral indicates the number of presidents who employ a given plan and the second numeral indicates the number who do not employ it. Department concerned recommends candidates, 23, 28; candidate chosen in conference, president and head, 25, 16; head of department submits recommendations to president, 14, 41; initiative with president but department head passes on candidate, 29, 14; the entire matter is in the hands of the president, 18, 33. The presidents seek new members of their staffs from the following sources: graduate schools or graduate departments of universities, 55, 0; placement bureaus of graduate schools or universities, 54, 0; heads of departments or professors, 43, 12; those who have had experience in public school teaching, 39, 15; those who have had experience in teachers colleges, 43, 12; commercial teachers agencies, 36, 19; "anywhere that we can get them," 5, —.

The same study reports the order in which presidents ranked the various types of teaching experience: (1) wide experience, not necessarily in a similar position; (2) experience in a position similar to the one to be filled but less successful than the method indicated above; (3) marked success in a position demanding executive

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See also A. C. C. Hill, Jr., "The Appointment of College Teachers," *Association of American Colleges Bulletin*, XIV (December, 1928), 522–40.

Hardin Craig, "Methods of Appointment and Promotion in American Colleges and Universities," *Bulletin of the American Association of University Professors*, XV (March, 1929), 173–217.

"Methods of Appointment and Promotion," *Bulletin of the American Association of University Professors*, XIV (February, 1928), 95–102.

E. H. Wilkins, "Report of the Commission on Enlistment and Training of College Teachers," *Association of American Colleges Bulletin*, XV (March, 1929), 40–5.

ability; (4) experience in teaching in public schools. Ratings of various types of scholarship were in this order: (1) fair degrees in scholarship and expert skill in instruction; (2) average scholarship coupled with strong personality; (3) scholarship as evidenced by the Ph. D. degree; (4) comprehensive scholarship without research ability; and (5) productive scholarship evidenced by authorship of books. Qualities of personality were rated in the following order: (1) sincerity, (2) honesty, (3) loyalty, (4) enthusiasm, (5) sympathy, (6) vitality, (7) personal appearance, (8) optimism, (9) frankness, and (10) consistency. Social qualities were listed as follows: (1) ability to represent institutions at public gatherings, (2) good fellowship, (3) leadership in civic or community affairs, (4) leadership in religious affairs, and (5) leadership in affairs purely social. Cultural qualities were named in this order: (1) fine sense of ethical propriety, (2) refinement of manners, (3) extensive travel, and (4) connoisseur in matters of taste.

Klapper[58] describes five plans for selection and promotion of teachers which are now advocated: (1) a competitive examination and the president recommends one of the first three candidates; (2) president has sole selective power; (3) a committee of the president, dean, and department head make the selection; (4) a committee of three or five representing the department in question and two related departments recommend three or five names; and (5) a committee of three or five representing

[58] Paul Klapper, "The College Teacher and His Professional Status," *Educational Administration and Supervision*, XI (February, 1925), 73–91.

See also Robert D. Leigh, "College Teaching as a Career," *Journal of the National Education Association*, XVIII (January, 1929), 9–10.

C. A. McMurry, "Teacher Training as a Career," *Journal of the National Education Association*, XVIII (April, 1929), 109–10.

the department in question and one or more cognate departments make the selection.

Klapper also summarizes the plans of promotion now existing and advocated by responsible agencies: (1) the president is the sole judge of those worthy of promotion; (2) the president nominates upon recommendation by a department head; (3) recommendation by an appointed committee with which the president consults; (4) an elected committee consults with the president; and (5) department recommendation, that is, all members of higher ranks meet to discuss the promotion of those with lower ranks. Reference should be made to articles by Birkelo[59] and Randall.[60] Birkelo bases his study on 403 replies to a questionnaire returned by teachers in seventeen normal schools and teachers colleges.

Faculty Scholarship and Training.—Recent studies throw considerable light on the amount of academic training possessed by teachers in liberal-arts colleges and junior colleges.[61] The data were secured through a questionnaire study of 163 institutions belonging to the North Central Association. The results show that of a total of 8,743 members of the teaching staffs represented 33.9 per cent have the Doctor's degree or its equivalent, 7.5 per cent two years of graduate training, 33.8 per

[59] Carl P. Birkelo, "A Study of Some Factors Involved in the Selection of Normal School and Teachers College Instructors," *Educational Administration and Supervision*, XIV (September, 1928), 393–403.

[60] Otis E. Randall, "Report of the Commission on the Enlistment and Training of College Teachers," *Association of American Colleges Bulletin*, XIV (March, 1928), 95–107.

[61] "Faculty Training in the Liberal Arts College," *North Central Association Quarterly*, III (September, 1928), 172–9.

"Training of Teachers in Junior Colleges," *School Review*, XXXVII (January, 1929), 13–4.

M. E. Haggerty, "Faculty Qualifications for Junior Colleges," *North Central Association Quarterly*, III (December, 1928), 305–9.

cent the Master's degree or its equivalent, 22.3 per cent the Bachelor's degree or its equivalent, and 2.5 per cent less than the Bachelor's degree. According to the junior-college study, teachers in such institutions in California have the following training: 7 per cent the Doctor's degree, 46 per cent the Master's degree, 90 per cent at least the Bachelor's degree, and only 10 per cent without any degree. Krusé and Beck report a study of the presidents of state teachers colleges and of state universities which covers academic training, previous occupations, tenure of office, age, institutions from which degrees were received, etc.[62] McGinnis secured from the catalogues of eighty state teachers colleges information concerning the degrees of the presidents involved.[63] The courses offered at Ohio State, Chicago, Peabody, New York, Columbia, and Minnesota for the professional training of college teachers are especially well known.[64]

It is possible to do no more than call attention to a number of miscellaneous publications which deal with phases of the training and scholarship of college teachers. Butler emphasizes the value of many contacts on the part of professors with the practical affairs of life.[65] Palmer shows that eighty of the 582 teachers on the 1928 staff of one summer school, Columbia University,

[62] S. A. Krusé and E. C. Beck, "A Study of the Presidents of State Teachers Colleges and of State Universities," *Peabody Journal of Education*, V (May, 1928), 358–61.

[63] Howard J. McGinnis, "Degrees Held by the Presidents of State Teachers Colleges," *Peabody Journal of Education*, V (March, 1928), 301–2.

[64] "Professional Courses in Higher Education," *Association of American Colleges Bulletin*, XIII (November, 1927), 356–63.

[65] N. M. Butler, *Scholarship and Service*. New York: Charles Scribner's Sons, 1921. Pp. 122.

appeared in *American Men of Science.*[66] Ho analyzed the vocational histories of prominent American psychologists, as well as of other scientists.[67] Ogg reports the research work done by learned societies, colleges, universities, bureaus, foundations, business houses, and individuals.[68] Good[69] and Monroe[70] summarize the work done by experimenters and investigators in the field of education; this is tangible evidence of the scholarship of college teachers. Kelly[71] discusses briefly the preparation of the faculty and Teagarden[72] lists a bibliography on professional codes of ethics which covers the period, 1910–1924.

Salaries of College Teachers.—Arnett presents data concerning salaries paid in 1926–27 in 302 institutions.[73] In the following statement the first figure refers to the average salary in 1926–27 and the second figure denotes

[66] Archie M. Palmer, "The Teachers of the Columbia University Summer Session," *School and Society,* XXVIII (September 15, 1928), 332–3.

[67] Ching-Ju Ho, *Personnel Studies of Scientists in the United States.* Teachers College Contributions to Education, No. 298. New York: Teachers College, Columbia University, 1928. Pp. 60.

[68] Frederic Austin Ogg, *Research in the Humanistic and Social Sciences.* New York: Century Co., 1928. Pp. 454.

[69] Carter V. Good, *How to Do Research in Education.* Baltimore: Warwick and York, 1928. Pp. 298.

[70] Walter S. Monroe and Others, *Ten Years of Educational Research,* 1918–1927. University of Illinois Bulletin, Vol. XXV, No. 51. Urbana, Illinois: University of Illinois, 1928. Pp. 368.

[71] R. L. Kelly, "A Diagnosis and a Prescription," *Christian Education,* IX (May, 1926), 328–36.

[72] Florence M. Teagarden, "Bibliography of Professional Codes of Ethics for Educators," *School and Society,* XX (November 8, 1924), 599–601.

[73] Trevor Arnett, *Teachers' Salaries in Certain Endowed and State Supported Colleges and Universities in the United States, with Special Reference to Colleges of Arts, Literature and Science* 1926–27. Publications of the General Education Board, Occasional Papers, No. 8, 1928. New York: General Education Board. Pp. 84.

the per cent of increase over 1919–20: professor, $3,798—36.4 per cent increase; associate professor, $3,256—33.9 per cent increase; assistant professor, $2,669—27.3 per cent increase; and instructor, $1,941—34.6 per cent increase. A study of twenty-three representative universities and thrity-five representative colleges reported in September, 1928, gives the following information with respect to salaries in the North Central Association:[74] average salary for professor, $3,280.47; associate professor, $2,829.67; assistant professor, $2,388.21; and instructor, $1,915.47.

The nature of several other investigations of salaries may be indicated briefly: a statistical study of the relation between college teachers' salaries and the age, teaching experience, scholarship, graduate work, and degrees of newly appointed teachers in seven New England colleges;[75] a bibliography[76] which covers the period, 1883–1917; a study of the factors which determine the salaries of public-school teachers, based on data secured from 7,159 women and 1,520 men in Ohio;[77] a questionnaire investigation of practices in seventy-seven colleges in providing compensation for extension teaching;[78] and a few miscellaneous treatments of college salaries.[79]

[74] "Faculty Training in the Liberal Arts College," *North Central Association Quarterly*, III (September, 1928), 172–9.

[75] A. C. C. Hill, Jr., "College Teachers' Salaries," *School and Society*, XXVII (June 9, 1928), 701–2.

[76] Vaughan MacCaughey, "Professors' Salaries—A Concise Bibliography," *School and Society*, VI (November 3, 1917), 535–8.

[77] Joseph A. Baer, "For What Is the Teacher Paid?" *Educational Research Bulletin*, VII (May 30, 1928), 225–50. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

[78] James M. Maurer, "Methods Used to Compensate Instructors for Extension Teaching," *School and Society*, XXVIII (September 8, 1928), 308–10.

[79] Trevor Arnett, *Teachers' Salaries in Certain Endowed Colleges and Universities in the United States*. New York: General Education Board, 1921. Pp. 42.

Teaching Load, Distribution of Time, and Scheduling Practices.—McMullen reports a study of the service load in sixty-nine teacher-training institutions based on replies from approximately two thousand teachers.[80] In the following tabulation the first figure indicates the average number of class hours spent per week in teaching in each department, the second figure represents McMullen's recommended teaching load per week, in class hours, and the third figure is the number of student hours recommended: art, 15.3, 17, 350; commerce, 16.6, 19, 350; education (theory), 13.0, 14, 500; education (critic), 20.8, 18, . . . ; English, 13.4, 14, 450; home economics, 15.5, 18, 250; language, 15.4, 19, 250; manual arts, 20.6, 22, 250; mathematics, 13.8, 16, 350; music,

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Trevor Arnett, "Teachers' Salaries," *Association of American Colleges Bulletin*, XV (March, 1929), 9–19.

"The Notable Rise in College Salaries," *Twenty-First Annual Report*, pp. 17–33. New York: Carnegie Foundation for the Advancement of Teaching, 1926.

Salaries in Universities and Colleges in 1920. Bureau of Education Bulletin No. 20, 1920. Washington: Bureau of Education. Pp. 44.

J. A. H. Keith, "Adequate Compensation for Teachers in State Normal Schools," *National Education Association Proceedings*, Vol. LVII, pp. 229–38. Washington: National Education Association, 1919.

F. E. Bolton, "College Teaching as a Career for Men," *School and Society*, XXI (February 21, 1925), 213–7.

Paul Klapper, "The College Teacher and His Professional Status," *Education Administration and Supervision*, XI (February, 1925), 73–91.

Carl P. Birkelo, "A Study of Some Factors Involved in the Selection of Normal School and Teachers College Instructors," *Educational Administration and Supervision*, XIV (September, 1928), 393–403.

[80] L. B. McMullen, *The Service Load in Teacher Training Institutions of the United States.* Teachers College Contributions to Education, No. 244. New York: Teachers College, Columbia University, 1927. Pp. viii + 98.

17.0, 21, 350; physical education, 15.8, 18, 500; science, 16.6, 18, 400; and social science, 13.8, 16, 450. The study also includes information concerning other types of activity engaged in by teachers in state teachers colleges.

The nature of a number of other significant studies should be indicated. McMullen also reports data concerning the service load of 437 critic teachers.[81] Davis lists the factors that enter into the problem of teaching load, such as teaching, research, and other duties, and states five principles to be observed in determining teaching load.[82] Heilman lists in detail the distribution of the time of sixty-three teachers at Colorado State Teachers College.[83] Kelly secured from deans of colleges of arts, education, engineering, and agriculture information concerning the relative amounts of time required to teach different college courses.[84] Lindsay obtained from forty-two states and sixty-seven institutions data on scheduling, convocations, registration, use of rooms, scholastic day and week, teaching load, etc.[85]

[81] L. B. McMullen, "The Service Load of the Critic Teacher in State Teachers Colleges," *Educational Administration and Supervision*, XII (May, 1926), 311–8.

[82] C. O. Davis, "The Teaching Load in a University," *School and Society*, XIX (May 10, 1924), 556–8.

[83] J. D. Heilman, "Methods of Reporting the College Teacher's Load and Administrative Efficiency," *Educational Administration and Supervision*, XI (March, 1925), 167–87.

Also L. S. Foltz, "A Study of the Division of Faculty Time in a Department of Electrical Engineering," *Journal of Engineering Education*, XIX (February, 1929), 533–9.

[84] F. J. Kelly, "Relative Amounts of Time Required for Teaching Different College Courses," *Journal of Educational Research*, XIII (April, 1926), 273–83.

[85] E. E. Lindsay, "Scheduling Practices in State Universities and Colleges," *School and Society*, XXI (January 17, 1925), 84–8.

Koos[86] made one of the early studies of teaching load, as well as an investigation of the training, experience, teaching load, and remuneration of junior-college teachers. Patrick[87] investigated as a Doctor's thesis student load in extension teaching.

Class Size.—Hudelson reports the most comprehensive investigations of the effect of class size on achievement that have been made.[88] The fifty-nine experiments involved 108 classes under twenty-one instructors in eleven departments in four colleges at the University of Minnesota. The investigation included 6,059 students—4,205 in large classes and 1,854 in small classes. The general conclusion is that in forty-six of the experiments, or 78 per cent, a more or less decided advantage accrued to the paired students in the large sections. Space does not permit a statement of the details of Hudelson's data. Presumably Von Borgersrode's study

[86] L. V. Koos, *The Adjustment of the Teaching Load in a University.* Bureau of Education Bulletin No. 15, 1919. Washington: Bureau of Education. Pp. 64.

L. V. Koos, *The Junior-College Movement,* chapter iv. Boston: Ginn and Co., 1925.

[87] Wellington Patrick, "Student Load in University Extension Teaching." Unpublished Doctor's thesis, George Peabody College for Teachers, 1926.

[88] Earl Hudelson, *Problems of College Education,* chapter xxxii. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Earl Hudelson, *Class Size at the College Level.* Minneapolis, Minnesota: University of Minnesota, 1928. Pp. 300.

Earl Hudelson, "Class Size in Universities," *Educational Review,* LXXII (November, 1926), 231–4.

For an important summary of investigations relating to class size see Floyd W. Reeves and John D. Russell, *Some Aspects of Current Efforts to Improve College Instruction,* chapter v. Bulletin of the Bureau of School Service, I (December, 1928). Lexington, Kentucky: Bureau of School Service, University of Kentucky. The University of Michigan, Worcester, and University of Minnesota experiments are summarized.

is a part of the larger investigation at the University of Minnesota.[89]

Holland secured data from 492 students in an introductory course in education psychology.[90] Mueller reports the results of an experiment at the Massachusetts State Normal School at Worcester.[91] Edmonson and Mulder present data secured from a large class and a small class in education at the University of Michigan.[92]

Teacher Tenure, Turnover, and Academic Freedom.—Hunter's study of 107 teacher-training institutions shows that 60 per cent of the instructors were appointed for only one year.[93] Only 15 per cent received indefinite appointments and in more than one-half of the institutions instructors were reelected each year. In 1924 the turnover was 8.5 per cent in forty-six teachers colleges and 12 per cent in sixty-one state normal schools. Klapper makes the following recommendations with respect to the tenure of college and university teachers: (1) annual appointment for the first three years with the contract terminable at the end of a year by the governing board upon recommendation of the president; (2) permanent tenure after the probationary period; and (3)

[89] F. R. Von Borgersrode, "The Relation of Class Size to the Effectiveness of University Instruction as Expressed through a Direct Measure of Student Achievement." Unpublished Doctor's thesis, University of Minnesota, 1927.

[90] B. F. Holland, "The Effect of Class Size on Scholastic Acquirement in Educational Psychology," *School and Society*, XXVII (June 2, 1928), 668–70.

[91] A. D. Mueller, "Size of Class as a Factor in Normal-School Instruction," *Education*, XLIV (December, 1924), 203–7.

[92] J. B. Edmonson and F. J. Mulder, "Size of Class as a Factor in University Instruction," *Journal of Educational Research*, IX (January, 1924), 1–12.

[93] F. M. Hunter, "Teacher Tenure in Colleges and Normal Schools," *National Education Association Proceedings*, Vol. LXIII, pp. 220–37. Washington: National Education Association, 1925.

dismissal only after investigation by a body representing the governing board, administrative officers, and teaching body.[94] Hunter reports a detailed study of teacher-tenure legislation.[95] Attention should be directed to certain other treatments of teacher tenure and academic freedom.[96]

Retirement Systems and Pensions.—The Carnegie Foundation for the Advancement of Teaching has been especially active in encouraging teacher's insurance and annuities. The progress of the Teachers Insurance and Annuity Association and a summary of pension systems and pension legislation are reported by this organization.[97] Studensky in 1920 made a detailed study of teachers' pension systems.[98] Space is not available for describing the various types of retirement systems and pension

[94] Paul Klapper, "The College Teacher and His Professional Status," *Educational Administration and Supervision*, XI (February, 1925), 73–91.

[95] F. M. Hunter, "Teacher Tenure Legislation in the United States." *National Education Association Research Bulletin*, Vol. II, No. 5, 1924.

[96] Clarence L. Clarke, *Tenure of Teachers in the Profession with Special Reference to Wisconsin.* Ann Arbor, Michigan: Alumni Press, University of Michigan, 1928. Pp. viii + 144.

W. W. Boyd, "Report of the Commission on Academic Freedom and Academic Tenure," *Association of American Colleges Bulletin*, XIV (March, 1928), 92–4; XV (March, 1929), 111–4.

"Bibliography on Academic Freedom," *Association of American Colleges Bulletin*, XIV (December, 1928), 541–3.

A. M. Kidd, "Academic Freedom and Tenure," *Bulletin of the American Association of University Professors*, XIV (February, 1928), 102–6.

[97] *Twenty-First Annual Report of the Carnegie Foundation for the Advancement of Teaching*, Parts III and V. New York: Carnegie Foundation for the Advancement of Teaching, 1926.

[98] Paul Studensky, *Teachers' Pension Systems in the United States.* New York: D. Appleton and Co., 1920. Pp. 460.

plans which are in effect in the different states and institutions.

Technical Vocabulary and Terminology in Higher Education.—The state of flux in higher education, to which reference was made at the beginning of this chapter, is well illustrated by the diversity of the terminology in use, the lack of standardization, and the frequent neglect of the vocabulary problems of the young student. Illustrations may be drawn from several fields. First, a question may be raised relative to the size of the technical vocabulary to which the young student is introduced. Fortunately some evidence which throws light on this problem is available. An investigation[99] including ninety-eight students who were asked to prepare a statement of what they considered the characteristics of good and poor textbooks shows that "too much technical vocabulary" heads the list of specific sources of difficulty in the textbooks mentioned. Analysis of ten textbooks in educational psychology revealed 559 selected technical terms considered important by four psychology instructors. Since a class in educational psychology ordinarily meets approximately fifty regular class days, equal distribution of these terms means that about ten new terms must be taken up each class period. Analyses of the technical vocabularies found in textbooks in history of education, school administration, and principles of education were made. It was found that 36 per cent of the 559 selected psychological terms appeared in the "principles" list, 19 per cent in the "history" list, and 15 per cent in the "school administration" list. A comparison of the three technical vocabularies with Thorndike's ten thousand most com-

[99] S. L. Pressey, L. C. Pressey, and Others, *Research Adventures in University Teaching*, pp. 61–63, 127–33. Bloomington, Illinois: Public School Publishing Co., 1927.

mon words of the English language showed that in the list in history of education there were 1,831 words not found in Thorndike's list; there were 1,076 such words in the list in school administration and 1,833 such words in the list in principles of education. These figures indicate that vocabulary problems are a matter of real concern in the courses mentioned.

Pressey made a similar investigation[100] of English literature, American history, and zoology. A text in English literature contained references to 2,461 different items such as authors, historical and literary characters, literary compositions, places, and dates. Of these items 57 per cent appeared only once, while 77 per cent were mentioned in only one chapter. Thirty-six per cent of the dates did not appear at all in a second text in English literature. A college text in American history mentioned 983 different persons of whom 83 per cent appeared only once. A college text in zoology commonly used in beginning courses was found to contain 4,226 technical terms not included in the ten thousand words of the Thorndike list of most commonly used words. Since teachers of foreign languages consider the acquisition of one thousand new words a fair achievement for the first year's work in a foreign language, the technical vocabulary in the zoology text appears to be about four times as great as the vocabulary which students are expected to master in a foreign language. Such facts indicate that the problem of technical vocabulary is one worthy of consideration in the textbooks of fields other than education.

Desirability of Some Uniformity in Education Courses.— Evidence is available which indicates a decided lack of common agreement and uniformity with regard to the problems and content of a given course in education,

[100] S. L. Pressey, L. C. Pressey, and Others, *op. cit.*, pp. 127–33.

authorship of textbooks used, and course titles. As long as this state of affairs exists it will be difficult to develop an exact technical vocabulary and a uniform educational nomenclature.

Watson,[101] on the basis of topics included in texts, courses, and examinations in educational psychology, formulated a series of problems deemed important in this field. The list of problems was submitted to four hundred subjects with the request that they add topics not included in the series. Various groups of individuals were asked to rate the importance of the different psychological problems included in the list. The author's conclusion was that psychological textbooks do not agree with one another in their emphases or with the criterion based upon judgment of value. Representative educational psychologists, in their ratings of the problems suggested, differed widely from the distribution of emphasis suggested by other educators and from the lines of emphasis in textbooks.

Worcester[102] analyzed eleven outlines of the first course in educational psychology as received from ten colleges and universities. He calls attention to the lack of agreement as to the material included in this first course. The same writer found on investigating twelve texts in educational psychology that the topic of instinct was the only item discussed under the same name in all the books analyzed. The space devoted to this topic varied from one-half of 1 per cent to 14 per cent of the whole text.

[101] Goodwin B. Watson, "What Shall Be Taught in Educational Psychology?" *Journal of Educational Psychology*, XVII (December, 1926), 577–99.

[102] Dean A. Worcester, "The Wide Diversities of Practice in First Courses in Educational Psychology," *Journal of Educational Psychology*, XVIII (January, 1927), 11–7.

An article[103] published as early as 1920, based on material collected some years previous to publication of the data, indicates a fairly large number of course titles covering in a large measure the same general body of subject matter. For instance, the fifty-seven courses in methods of instruction found in thirty-two college catalogues were distributed under sixteen course titles. The author calls attention to the confusion which results when students examine descriptions of such courses in college catalogues, especially when transferring from one institution to another. Certainly the officers charged with evaluating the work of students who transfer from other institutions find their task greatly complicated by the wide range of educational terminology in current use.

A more recent study[104] of course titles in educational psychology, based on catalogues for the year, 1926, secured from state normal schools and teachers colleges, shows, if anything, that the range of terminology in assigning course titles has increased during recent years. The 155 institutions whose catalogues were analyzed were found to offer a total of 897 courses in psychology under 182 different course titles. The distribution of titles was as follows: educational psychology, 21; educational tests and measurements, 36; mental tests and measurements, 19; general psychology, 13; child study, 18; psychology of adolescence, 8; psychology of subject matter, 12; social psychology, 2; abnormal psychology, 11; individual differences, 10; and miscellaneous, 32;

[103] G. M. Wilson, "Uniform Nomenclature for College Courses in Education," *Educational Review*, LX (September, 1920), 150–5.

[104] Marion E. MacDonald, "A Catalog Study of Courses in Psychology in State Normal Schools and Teachers Colleges," *Educational Administration and Supervision*, XIII (April, 1927), 272–82.

total, 182. It will be recognized that the person making the analysis may have grouped the course titles more or less arbitrarily under the general divisions of subject matter listed in the preceding sentence, since the decision was based only on the title of the course.

Douglas[105] made a questionnaire study of the status of the introductory course in educational psychology in universities and colleges and received sixty-five usable replies. His conclusions indicate that there is little or no uniformity of opinion as to the subject matter of educational psychology except where the course is offered in a designated college year. Consequently the textbooks in use vary widely in authorship and content.

Efforts toward Establishing an Exact and Uniform Educational Nomenclature.—It is not within the province of this chapter or book to present a list of definitions of educational terms. Such a dictionary of educational definitions would probably comprise a fair-sized volume. However, the reader may be referred to certain creditable attempts to standardize portions of the vocabulary in the field of education. The late Charles Hughes Johnston has prepared a chapter[106] on high-school terminology which, if read carefully and applied conscientiously in the speaking and writing of school workers, should do much to eliminate the haziness and diversification of nomenclature in the field of secondary education. A

[105] O. B. Douglas, "The Present Status of the Introductory Course in Educational Psychology in American Institutions of Learning," *Journal of Educational Psychology*, XVI (September, 1925), 396–408.

[106] Charles Hughes Johnston, Jesse H. Newlon, and Frank G. Pickell, *Junior-Senior High School Administration*, pp. 65–88. New York: Charles Scribner's Sons, 1922.

recent bulletin[107] has been prepared which is concerned especially with problems of terminology at the college level. Professors Monroe[108] and Odell[109] have sought to define the terms in the field of educational measurements. Certainly it seems that some worker might now carry these attempts at standardization of terminology in education beyond the scope of the contributions mentioned and perform for education the service Noah Webster did for the English language and spelling a century or more ago in his famous speller and dictionary.

It should be stated that Voegelein[110] has prepared a valuable systematic classification of educational activities and functions which covers the entire field of education; the purpose of the classification is to provide ready assistance to educators and librarians in the preparation of references to educational literature and in filing materials. Six other treatments of certain aspects of educational terminology may be mentioned.[111]

[107] David A. Robertson, *Standard Terminology in Education*. Educational Record Supplement (January, 1927). Washington, D. C.: American Council on Education. Pp. 32.

[108] Walter S. Monroe, *Definitions of the Terminology of Educational Measurements*. University of Illinois Bulletin, Vol. XX, No. 6. Urbana, Illinois: University of Illinois, 1922. Pp. 18.

[109] Charles W. Odell, *A Glossary of Three Hundred Terms Used in Educational Measurement and Research*. University of Illinois Bulletin, Vol. XXV, No. 28. Urbana, Illinois: University of Illinois, 1928. Pp. 68.

[110] L. Belle Voegelein, *List of Educational Subject Headings*. Columbus, Ohio: Ohio State University, 1928. Pp. xiv + 338.

[111] Carter V. Good, *How to Do Research in Education*, chapter iii. Baltimore: Warwick and York, 1928. The preceding discussion of educational terminology has been adapted from this book.

Alfred Leland Crabb, *A Study in the Nomenclature and Mechanics Employed in Catalogue Presentations of Courses in Education*. George Peabody College for Teachers Contributions to Education, No. 21. Nashville, Tennessee: George Peabody College for Teachers, 1926. Pp. 98.

Conclusion.—In chapter i an effort was made to list the numerous sources of information in the field of higher education. In chapter ii the purpose has been to provide a general background with respect to the status of colleges, teachers, and students. After covering these two general or survey chapters, which should orient the reader or student in the field of higher education, it now seems appropriate to take up a number of the more specific problems of college teaching such as: aims and objectives, selection and organization of subject matter, bases of learning and types of learning and teaching, problems of general method, study problems, psychological tests and guidance, measurement of instruction, provisions for individual differences, improvement of college teachers and teaching, teacher-training work and education courses, problems of special method and the curriculum in the various subject-matter fields, etc. Therefore, the following chapter will be devoted to a consideration of the aims of college education and systematic teaching.

Supplementary References

Angell, R. C. *The Campus:* A Study of Contemporary Undergraduate Life in the American University. New York: D. Appleton and Co., 1928. Pp. 240.

G. M. Wilson, "Titles of College Courses in Education," *Yearbook Number VIII of the National Society of College Teachers of Education*, pp. 12–30. Chicago: University of Chicago Press, 1919.

Horace B. English, *A Student's Dictionary of Psychological Terms.* Yellow Springs, Ohio: Antioch Press, 1929. Pp. 82.

J. T. Faig, "Report on Technical Nomenclature," *Journal of Engineering Education*, XIX (October, 1928), 220–2.

Atherton Seidell, "Limitations upon the Unification of Chemical Nomenclature," *Journal of Chemical Education*, VI (April, 1929), 720–9.

Discusses various problems of college life: value of four years in college, coeducation, fraternities and sororities, athletics and campus activities, undergraduate interests, future of the university, and social effects of mass production in education.

Bagley, W. C. "The Profession of Teaching in the United States," *School and Society*, XXIX (January 26, 1929), 101–10.
Presents a general outline of the development of teaching in the United States, handicaps, economic forces, contribution of students of education to professional development, progress toward professional solidarity and integration.

Bain, R. "Religious Attitudes of College Students," *American Journal of Sociology*, XXXII (March, 1927), 762–70.
An investigation conducted by the department of sociology at the University of Washington; the study included religious, domestic, educational, political, and economic questions.

Capen, S. P. *Facilities for Foreign Students in American Colleges and Universities.* Bureau of Education Bulletin No. 39, 1920. Washington: Bureau of Education. Pp. 270.

Cattell, J. M. "Age of Retirement," *School and Society*, XXII (July 25, 1925), 114.

Cline, E. C. "Ethics of the Professor," *Educational Review*, LX (October, 1920), 244–9.

Curtis, W. C. "Recruiting of the College and University Profession," *School and Society*, XI (January 3, 1920), 14–8.
Presents inducements and unattractive factors involved in college teaching as a profession.

Duggan, S. P. "Foreign Students in American Colleges," *Association of American Colleges Bulletin*, X (April, 1924), 65–76.

Fosdick, A. M. "A Study of the Experience, General Education, and Professional Training of School Supervisors and Administrators of the State of California." Unpublished Doctor's thesis, University of California, 1922.

Heilman, J. D. "The Teacher's Load," *American Association of Teachers Colleges Yearbook*, 1923, pp. 61–7.

Holme, E. R. *The American University.* Sydney, Australia: Angus and Robertson, Ltd., 1920. Pp. 242.
An Australian view of the American university.

Jensen, M. B. "Trait Differences between Three Groups in Education (Teachers, Research Workers, and Administrators)." Unpublished Doctor's thesis, Stanford University, 1927.

Kempner, A. J. "How Professors Live," *School and Society*, XII (November, 1920), 436–41.
Gives the economic status of the professors of the University of Illinois, including professional expenditures.

McGuffey, Verne. "Some Elements in the Cultural Background of Students in One of the New York City Training Schools for Teachers," *Educational Administration and Supervision*, XIV (April, 1928), 279–82.
Includes data concerning birthplace, place of residence, and languages spoken.

McKenney, C. "Equipment of the Teachers College Faculty," *School Life*, IX (March, 1924), 145.

McMullen, L. B. *The Service Load in Teacher Training Institutions of the United States*. Teachers College Contributions to Education, No. 244. New York: Teachers College, Columbia University, 1927. Pp. viii + 98.

Marks, M. M. "Developing Opportunities for Foreign Travel and Study for American College Students and Teachers," *Association of American Colleges Bulletin*, X (April, 1924), 57–65.

Massey, Vincent. "The Colleges of Canada," *School and Society*, XXIX (March 23, 1929), 369–74.

Mead, A. R. "Laboratory Schools for Teacher Preparation in Colleges and Universities, 1922–24," *Educational Administration and Supervision*, XIV (May, 1928), 338–57.
A study of building and equipment costs, enrollment, teaching staff, salaries, number of student teachers, facilities, deficiencies in facilities, etc.

Myers, A. F. "The 15-Hour Load for Critic Teachers at Ohio University," *Educational Administration and Supervision*, XII (April, 1926), 260–6.

Pierce, M. I. "A Plan for Measuring the Critic Teacher's Load in Terms of College Class Hours," *Educational Administration and Supervision*, XIII (May, 1927), 310–5.

Reeves, F. W., and Russell, J. D. *College Organization and Administration*, chapters ii, viii, ix. Indianapolis, Indiana: Board of Education Disciples of Christ, 1929.
Treats the service rendered, instructional load, and the faculty.

Rich, S. G. "College Teaching as a Career," *School and Society*, XXII (October 17, 1925), 495–6.

Rich, S. G. "How Many Colleges," *Journal of Educational Sociology*, II (March, 1929), 430–7.

Robinson, Wm. M. *Preparation of Teachers.* Bureau of Education Bulletin No. 36, 1927. Washington: Bureau of Education. Pp. 34.
Data on the status of the professional preparation of teachers secured from state departments of public instruction and teacher-training institutions; includes a treatment of observation and practice teaching.

Rockwell, I. "Limitations of Teaching as a Profession," *School and Society*, XII (October 30, 1920), 408–9.

Scott, W. D. "Occupational Description of Our Faculty Positions," *School and Society*, XIV (October 15, 1921), 293–6.

Wagner, J. E. "The Professional Status of Faculty Members in Pennsylvania Teacher-Training Institutions," *Educational Administration and Supervision*, XV (March, 1929), 202–11.

Wagner, Mazie E. "Superstitions and Their Social and Psychological Correlatives among College Students," *Journal of Educational Sociology*, II (September, 1928), 26–36.

Walters, Raymond. "Statistics of Registration in Canadian Universities," *School and Society*, XXIX (March 23, 1929), 375–9.

Wenley, R. M. "British Degrees for Americans," *Bulletin of the American Association of University Professors*, XIV (April, 1928), 250–6.

Whitney, F. L. "The Social and Economic Background of Teachers College and University Students," *Education*, XLVII (April, 1927), 449–56.

Zook, G. F. "Residence of University and College Students," *Association of American Colleges Bulletin*, XI (May, 1925), 220–36.

Institutions of Higher Education, Survey of Education in West Virginia, Vol. IV. Prepared by C. H. Judd and Others. Charleston, West Virginia: State Department of Education, 1928. pp. xii + 124.

Chapter III

OBJECTIVES AND STANDARDS IN HIGHER EDUCATION

General Treatments of Educational Aims.—In chapter ii reference was made to the discussions of Learned,[1] Judd,[2] and Flexner;[3] these comparisons of American and European education provide a very good overview of the nature of the educational objectives involved, particularly at the level of secondary education. Probably the most widely disseminated statements of educational aims are those known as the Cardinal Principles of Secondary Education and as Bobbitt's ten objectives. The Cardinal Principles list includes: (1) health activities, (2) fundamental tool-subject activities, (3) vocational activities, (4) worthy home membership activities, (5) civic activities, (6) leisure-time activities, and (7) ethical activities.[4] Bobbitt's list of general objectives is as follows:[5]

[1] William S. Learned, *The Quality of the Educational Process in the United States and in Europe.* Carnegie Foundation for the Advancement of Teaching Bulletin, No. 20. New York: Carnegie Foundation for the Advancement of Teaching, 1927. Pp. x + 134.

[2] Charles H. Judd, "The Unique Character of American Secondary Education," *School Review,* XXXVI (February, 1928), 95–117.

[3] Abraham Flexner, *Do Americans Really Value Education?* The Inglis Lecture, 1927. Cambridge, Massachusetts: Harvard University Press, 1927. Pp. 50.

[4] *Cardinal Principles of Secondary Education.* Bureau of Education Bulletin No. 35, 1918. Washington: Bureau of Education. Pp. 32.

[5] Franklin Bobbitt, *How to Make a Curriculum,* pp. 8–9. Boston: Houghton Mifflin Co., 1924.

1. Language activities or social intercommunication.
2. Health activities.
3. Citizenship activities.
4. General social activities.
5. Spare-time activities.
6. Keeping one's self mentally fit.
7. Religious activities.
8. Parental activities.
9. Unspecialized or nonvocational practical activities.
10. Vocational activities.

Probably the outstanding book of the decade in the field of secondary education includes an especially apt discussion of the aims of education and systematic teaching. Morrison considers the purpose of the secondary school to facilitate adjustment to environment. The adjustments or changes which take place in the individual are in the form of understandings, appreciations, special abilities, and skills. His discussions of lesson-learning, mastery, unit organization of subject matter, the teaching cycle, and types of learning and teaching are well worth the attention of teachers at any level of instruction. This conception of the practice of teaching is appropriate at the college level, since Morrison conceives of secondary education as including the junior-college years.[6]

It is possible to do no more than list a number of other significant discussions which consider at least in part the real meaning of education, present-day objectives, and criticisms of current educational aims.[7]

[6] H. C. Morrison, *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press, 1926. Pp. viii + 662.

H. C. Morrison, "The Secondary Period and the University," *School Review*, XXXVII (January, 1929), 16–28.

[7] Franklin Bobbitt, *The Curriculum.* Boston: Houghton Mifflin Co., 1918. Pp. viii + 296.

W. L. Uhl, *Secondary School Curricula*, Part III. New York: Macmillan Co., 1927.

General Discussions of Aims and Values in Higher Education.—Koos and Crawford report an interesting study of past and present college aims.[8] They analyzed twenty-seven statements found in books and periodicals

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Everett Dean Martin, *The Meaning of a Liberal Education.* New York: W. W. Norton and Co., 1926. Pp. 320.

Ernest DeWitt Burton, *Education in a Democratic World.* Edited by Harold R. Willoughby. Chicago: University of Chicago Press, 1927. Pp. xx + 166.

Bernard I. Bell, *Common Sense in Education.* New York: William Morrow and Co., 1928. Pp. 322.

Stanwood Cobb, *The New Leaven.* New York: John Day Co., 1928. Pp. 340.

Thomas H. Briggs, "What is A Liberal Education?" *North Central Association Quarterly,* III (September, 1928), 235–45.

William Heard Kilpatrick, *Education for a Changing Civilization.* New York: Macmillan Co., 1926. Pp. vi + 144.

Boyd H. Bode, *Modern Educational Theories,* Part II. New York: Macmillan Co., 1927.

David Snedden, *What's Wrong with American Education?* Philadelphia: J. B. Lippincott Co., 1927. Pp. x + 380.

Glenn Frank, "Informalism versus Institutionalism in Education," *Proceedings of the Eighth Annual Session of the Ohio State Educational Conference,* pp. 39–59. Ohio State University Bulletin, Vol. XXXIII, No. 3, 1928. Columbus, Ohio: Ohio State University; also *North Central Association Quarterly,* III (December, 1928), 310–23.

Clarence Little, "The Outlook for Education," *Proceedings of the Eighth Annual Session of the Ohio State Educational Conference,* pp. 12–25. Ohio State University Bulletin, Vol. XXXIII, No. 3, 1928. Columbus, Ohio: Ohio State University.

Walter Dill Scott, "The Rapid Development of Mechanical Power and Its Influence on Education in America," *Educational Record,* IX (July, 1928), 133–49.

F. M. McMurry, "The Biggest Thing in Teaching," *Teachers College Record,* XXVIII (November, 1926), 215–9.

Carter V. Good, "The Objectives of Secondary Schools in 1926–27," *Education,* XLVII (June, 1927), 585–92.

[8] L. V. Koos and C. C. Crawford, "College Aims Past and Present," *School and Society,* XIV (December 3, 1921), 499–509.

with dates of publication between 1842 and 1876 in order to discover the aims of the past. Forty statements from books and periodicals which appeared between 1909 and 1921 were examined in order to discover current aims in colleges. Their results are summarized in Table III.

TABLE III.—PAST AND PRESENT COLLEGE AIMS

Aims and Functions Calling for Values in:	Number of Statements Recognizing:	
	Past	Present
1. Mental discipline	22	14
2. Liberal education	25	30
3. Civic and social responsibility	8	30
4. Morality and character	15	25
5. Religion	13	14
6. Leadership	3	11
7. Domestic responsibility	1	6
8. Health	1	3
9. Speech	7	2
10. Manners	2	0
11. Occupational training	4	11
12. Pre- Professional training	7	13
13. Recreation	4	8
14. Training for life's needs	2	10
15. Knowledge for its own sake	1	4
16. Development of scholarly interests and ambition	2	11
17. Opportunities for specialization	1	1
18. Selection for higher education	0	4
19. Guidance and exploration	0	7
20. Coordination of the student's work	0	4
21. Attention to individual students	0	2
22. Democratizing college education	0	3

Brief mention will be made of a number of treatments of aims, functions, and values in higher education. Burton has prepared a series of addresses on the functions and work of various divisions of the university.[9] Briggs presents views on the meaning of liberal, the American college and university, and the life and equipment of the teacher.[10] Butler in a series of addresses provides an overview of many of the obligations and responsibilities of the higher institution of learning.[11] Flexner's treatment of the modern college is well known; he comments critically on the forms of class instruction and systems of marking prevalent, and makes a plea for greater freedom for able students.[12] Certain other publications of a similar nature are of interest.[13]

In current periodical literature Spencer emphasizes the objectives of health, economic and social guidance, citizenship, spiritual values, and human interest in higher education.[14] Gildersleeve indicates certain dangers in the education of women: feminization of their education,

[9] Ernest DeWitt Burton, *Education in a Democratic World.* Edited by Harold R. Willoughby. Chicago: University of Chicago Press, 1927. Pp. xx + 166.

[10] L. B. R. Briggs, *Men, Women, and Colleges.* Boston: Houghton Mifflin Co., 1925. Pp. 180.

[11] N. M. Butler, *Scholarship and Service.* New York: Charles Scribner's Sons, 1921. Pp. 122.

[12] A. Flexner, *A Modern College and a Modern School.* Garden City, New York: Doubleday, Page and Co., 1923. Pp. xviii + 142.

[13] Ernest Hatch Wilkins, *The Changing College.* Chicago: University of Chicago Press, 1927. Pp. 132.

H. E. Hawkes, *College—What's the Use?* Garden City, New York: Doubleday, Page and Co., 1927. Pp. viii + 144.

J. C. Meadows, "The Functions of a State University." Unpublished Doctor's thesis, George Peabody College for Teachers, 1927.

[14] M. Lyle Spencer, "The Pathfinder in the Wilderness," *School and Society,* XXVII (March 17, 1928), 309–15.

failure to utilize fully the opportunities presented, the tendency to make higher education fashionable, financial starvation of women's institutions, and superficiality.[15] Laing discusses the meaning of a university, present conditions in education, means of increasing the efficiency of the college, and the graduate school.[16] Rainey defines and describes what he considers liberal education.[17] Three other current discussions may be mentioned.[18]

Aims of the Graduate School.—Buckner lists some distinctions between graduate and undergraduate work as based on the judgments of graduate students, judgments of college teachers of education, and statements in catalogues.[19] The students listed the characteristics of graduate study which are arranged according to frequency of mention as follows:

1. Student responsibility for work on a problem.
2. Development of independent thinking.
3. More intensive and extensive study.
4. More initiative and purpose required.

[15] Virginia C. Gildersleeve, "Present Dangers in the Education of Women," *Teachers College Record*, XXX (November, 1928), 122–5.

[16] Gordon J. Laing, "The Function of the University," *School and Society*, XXVII (March 17, 1928), 315–25.

[17] Homer P. Rainey, "The Crisis in Liberal Education," *School and Society*, XXVIII (September 1, 1928), 249–55.

[18] John R. Effinger, "A Secondary Function of the College," *Association of American Colleges Bulletin*, XIII (February, 1927), 28–33.

Edward O. Sisson, "The Meaning of the Baccalaureate," *School and Society*, XXVIII (July 21, 1928), 57–68.

Robert C. Francis, "Blind Alley toward the Stars: Where College and Life Fail to Meet," *Education*, XLVIII (June, 1928), 593–601.

[19] C. A. Buckner, "Some Distinctions between Graduate and Undergraduate Work in Education," *University of Pittsburgh School of Education Journal*, II (March-April, 1927), 75–9.

5. More cooperation between instructors and students.
6. More interpretation and practical applications.
7. More flexible organization of the work.
8. Better attitude toward study.
9. Mature experience required for good work.
10. More ability required.
11. Development of appreciation for research.

The characteristics of undergraduate study, listed in the order of frequency of mention by students, are: (1) work based on text, (2) mastery of content as such, (3) student's work definitely directed by instructor, (4) taken to fulfill requirements, (5) less initiative and purpose, and (6) class atmosphere less stimulating. Teachers in some forty leading schools of education indicated that where both graduate and undergraduate students were registered in the same course the differences in requirements for graduate students were: (1) additional work, (2) more research, (3) more reports, (4) higher quality, (5) more written work, and (6) wider reading. Buckner finds none of these types of evidence wholly satisfactory in making clear-cut distinctions between graduate and undergraduate work, and suggests four levels or types of training which should be considered in the construction of curriculums and in the determination of content of specific courses. He refers particularly to work in the graduate school. These four levels are:

1. Preparation for the worker's first position; for most entrants to the profession this is a teaching position.

2. The improvement of practice; this implies reflective thinking or the third-person attitude toward one's work.

3. Cooperation in group research or the prosecution, under direction, of individual research.

4. Direction of research and investigation whether cooperative or independent in nature.

Robertson[20] raises a number of important questions with respect to the graduate school: What is the graduate school to do in the face of greatly increased enrollment? If there is to be a limitation and selection of students, how can the gifted students be selected? Is selection to be on the basis of promise in research or in teaching? In short, what are the functions of the graduate school? Ford attempts to give at least partial answers to these questions.[21] Buswell believes that a clear-cut differentiation between students interested in research and students interested in practice is essential in a subject as new as education.[22] He considers the principal obligation of the graduate school to be the selection of a competent group of students to whom will be given a rigid scientific training which will culminate in critical, productive scholarship. Lowell recommends that the Master's degree should not be a prerequisite to the Doctor's degree for those men who are prepared for the kind of work for which the latter degree is conferred, since he feels that the Master's program diverts them from their real goal by work of a different nature.[23] He is of the opinion that the adoption of university methods in colleges must involve a distinct remodeling of the graduate school. Haggerty emphasizes the fact that approximately 75 per cent of those who take Ph.D. degrees

[20] David A. Robertson, "The Graduate School—Its Functions and Criteria," *Problems of College Education*, pp. 164–76. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

[21] Guy Stanton Ford, "The Function of a Graduate School," *Problems of College Education, op. cit.*, pp. 177–81.

[22] G. T. Buswell, "A Personnel Study of Students Who Have Received the Master's Degree from the University of Chicago," *School and Society*, XXV (June 18, 1927), 730–6.

[23] A. L. Lowell, "The College and the Graduate School," *Educational Record*, IX (January, 1928), 3–8.

become teachers and urges that one of the duties of the graduate school is to give adequate training in principles and methods of teaching in college.[24] Reference to a digest of a number of discussions of the training of graduate students and research workers should be made at this point.[25]

Aims of the Liberal-Arts College.—F. J. Kelly has prepared a thought-provoking statement of the objectives of the liberal-arts college.[26] He outlines in some detail three major aims: preparatory, cultural or non-vocational, and vocational. The preparatory aim includes mastery of: (1) the mother tongue, both spoken and written; (2) foreign languages; (3) figures and mathematical formulas; and (4) the language and symbols used to express the fine arts—music, drawing, painting, design, etc. The cultural or non-vocational aim involves as much progress as possible toward the following goals:

1. A social viewpoint—the appreciation of one's responsibility for social progress.

2. Perspective—the information, the social experience and the aesthetic appreciation required for judgments in line with social progress.

3. Initiative—required to insure against indifference or inaction.

4. Intellectual training—required to assure a trustworthy solution of new problems.

[24] M. E. Haggerty, "Occupational Destination of Ph.D. Recipients," *Educational Record*, IX (October, 1928), 208–18.

[25] Carter V. Good, *How to Do Research in Education*, chapter xi. Baltimore: Warwick and York, 1928.

[26] F. J. Kelly, "A Comparison of Practices and Purposes of Liberal Arts Colleges," *Journal of Educational Research*, X (June, 1924), 49–60.

F. J. Kelly, *The American Arts College*, chapter ii. New York: Macmillan Co., 1925.

5. Self-mastery—required to assure conduct in line with one's principles.

The vocational aim suggests the inclusion within the college of: (1) such knowledge and skill in vocations largely dependent upon general culture as will most nearly assure success in a given vocation with a minimum term of apprenticeship; and (2) those pre-vocational studies which are basic for the specialized curriculums, but which are not themselves specialized to any considerable extent.

Other interesting discussions of the aims of the liberal-arts college are available.[27] McConn suggests a rather novel plan: the removal of professional courses from the liberal-arts college, a Scholar's College for those genuinely interested in intellectual culture, and a Gentleman's College for those who look upon college as merely a safe employment of time between the end of high school and the beginning of adult responsibilities.[28] Pease emphasizes three aims: preparation for a vocation, for wise and profitable use of leisure time, and for relations with neighbors and the community at large.[29] Rich urges that an analysis be made of the social needs of the various groups in college and that experimental studies be conducted to determine how these needs are to be met.[30] Williams deplores the fact that the A.B.

[27] "Ideals for the Effective College," *The Effective College*, Part I. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

A. M. Stowe, *Modernizing the College*, chapter vi. New York: Alfred A. Knopf, 1926.

[28] Max McConn, *College or Kindergarten?* New York: New Republic, Inc., 1928. Pp. 276.

[29] Arthur Stanley Pease, "The Aims of a Liberal College," *School and Society*, XXVI (December 3, 1927), 695–705.

[30] Stephen G. Rich, "An Approach to the Problems of the Curriculum in Arts Colleges," *Journal of Educational Sociology*, I (January, 1928), 282–8.

degree has become cheapened and suggests another type of degree for those not primarily interested in scholarship and academic pursuits.[31] Coffin[32] advocates the liberal-arts idea as exemplified in Whitter College, and Good[33] discusses the place of professional courses in college.

Aims of the Junior College.—Whitney[34] analyzed the reports and catalogues of 162 private and 132 public junior colleges in order to determine the specific purposes of junior colleges for 1927–28. In Table IV a comparison is made between the two types of institutions with respect to the percentage of statements recognizing a given aim. Whitney also compares his data for 1927–28 with a study made seven years earlier by Koos,[35] and lists the new functions recognized in the reports and catalogues of junior colleges in 1927–28.

Thomas discusses what he considers the four basic functions of the junior college: the preparatory, popularizing, terminal, and guidance functions.[36] Stowe's con-

[31] Joseph T. Williams, "The New College Degree—Bachelor of Citizenship," *School and Society*, XXVIII (September 29, 1928), 383–6.

[32] Joseph Herschel Coffin, "The Whittier Idea," *Progressive Education*, IV (October-November-December, 1927), 300–5.

[33] H. G. Good, "The Place of Professional Courses in the Liberal Arts Colleges," *School and Society*, XXVII (June 16, 1928), 709–13.

[34] Frederick L. Whitney, "Seven Years' Development in Junior College Purposes," *North Central Association Quarterly* III (September, 1928), 289–97.

[35] L. V. Koos, *The Junior College Movement*, chapter ii. Boston: Ginn and Co., 1925.

L. V. Koos, *The Junior College.* Research Publications of the University of Minnesota, Education Series, No. 5, Vols. I and II. Minneapolis, Minnesota: University of Minnesota, 1924.

[36] F. W. Thomas, "The Functions of the Junior College," *The Junior College*, chapter ii. Edited by W. M. Proctor. Standford University, California: Stanford University Press, 1927.

F. W. Thomas, "A Study of the Functions of the Public Junior College and the Extent of Their Realization in California." Unpublished Doctor's thesis, Stanford University, 1926.

TABLE IV.—AIMS OF 162 PRIVATE AND 132 PUBLIC JUNIOR COLLEGES IN 1927–28

Aim	Percentage of Statements Represented	
	Private	Public
I. Affecting Education in the Two Years under Consideration		
1. Furnishing moral and religious training	45.7	0.0
2. Providing occupational training of junior college grade	43.2	24.2
3. Completing education of students not going on	35.2	22.7
4. Popularizing higher education	29.0	76.5
5. Affording attention to the individual student	25.3	8.3
6. Offering two years of work acceptable to colleges and universities	23.5	19.7
7. Continuing home influence during immaturity	17.3	45.4
8. Offering better opportunities for training in leadership	9.3	0.8
9. Offering better instruction in these school years	8.0	14.4
10. Allowing for exploration	4.3	1.6
II. Affecting the Organization of the School System		
1. Fostering the evolution of the system of education	3.1	5.3
2. Economizing time and expense by avoiding duplication	1.2	0.0
3. Placing in the secondary school all work appropriate to it	0.6	0.8
4. Making the school period coincide with adolescence	0.0	2.3
5. Assigning a function to the small college	0.0	0.8
III. Affecting the University		
1. Assuring better preparation for university work	8.0	4.6
2. Relieving the enrollment in the university	5.6	8.3
3. Making possible real university functioning	1.2	0.0
IV. Affecting Instruction in the High School		
1. Improving high school instruction	0.6	0.0
2. Providing better department heads	0.0	0.8
3. Raising standards and putting equipment to use	0.0	0.8
V. Affecting the Community of Location		
1. Offering work meeting local needs	24.7	9.9
2. Affecting the cultural tone of the community	2.4	4.6
3. Keeping local money at home	0.0	0.8
4. Cutting down the number leaving the community permanently	0.6	0.8

clusions and discussion of aims apply especially at the junior-college level,[37] while a 1929 yearbook discussion is rather general in its application from the junior high school to the junior-college level.

Aims of Teacher-Training Institutions.—Creager studied the 1924–25 catalogues and bulletins of the thirty-two state universities which have definitely established schools or colleges of education in order to secure some conception of the general aims involved.[38] He also examined articles in periodicals with the same purpose in mind. His summary and interpretation of the numerous aims discovered reveals three fairly distinct sets of objectives: (1) education for participation in social and civic life, which implies continuation on the college level of those objectives operative in the field of secondary education; (2) preparatory and pre-professional, which implies not only adequate general scholarship and training as a sound basis for professional study but the mastery of certain subjects (such as biology, psychology, and social science) as propaedeutic to the study of education; and (3) professional, which includes not only the notion of training teachers and educational leaders for service in the public schools, but the development of a program of research and productive scholarship for the advancement of progressive education and for service to the state. Creager also lists the specific objectives of state universities in terms of the types of teacher-training work proposed in the catalogue statements.

[37] A. M. Stowe, *Modernizing the College*, New York: Alfred A. Knopf, 1926. Pp. xviii + 126.

The Articulation of the Units of American Education, chapters x, xi. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

[38] J. O. Creager, "Varying Policies in Schools of Education in State Universities," *Educational Administration and Supervision*, XIV (February, 1928), 123–30.

Four articles are of especial significance in orienting the student of education with respect to the sources of educational objectives and values. Bode,[39] Freeman,[40] Peters,[41] and Reisner[42] discuss respectively educational philosophy, educational psychology, educational sociology, and the history of education as sources of fundamental assumptions in education.

The technique of activity analysis or job analysis has been extensively used in determining the specific objectives of various phases of teacher-training work during the past few years. Since this method of discovering objectives will be summarized briefly in the next section of this chapter it will be necessary at this time only to call attention to a few treatments of activity analysis as applied to the determination of teacher-training objectives.[43] A number of somewhat general

[39] B. H. Bode, "Where Does One Go for Fundamental Assumptions in Education?" *Educational Administration and Supervision*, XIV (September, 1928), 361–70.

[40] Frank N. Freeman, 'Psychology as the Source of Fundamental Assumptions in Education," *Educational Administration and Supervision*, XIV (September, 1928), 371–7.

[41] Charles C. Peters, "Educational Sociology as a Source of Fundamental Assumptions in Education," *Educational Administration and Supervision*, XIV (September, 1928), 385–92.

[42] Edward H. Reisner, "The History of Education as a Source of Fundamental Assumptions in Education," *Educational Administration and Supervision*, XIV (September, 1928), 378–84.

[43] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study*. Chicago: University of Chicago Press, 1929. Pp. xx + 666.

Douglas Waples, "The Definition of Teaching Problems on the College Level," *Educational Administration and Supervision*, XIII (September, 1927), 391–8.

Douglas Waples, *Problems in Classroom Method*. New York: Macmillan Co., 1927. Pp. xxii + 610.

F. L. Whitney, "The Determination of Objectives in Teacher-Training," *Educational Administration and Supervision*, IX (May, 1923), 277–89.

treatments of teacher-training objectives may be mentioned.[44]

Methods of Determining Educational Objectives.—Whitney describes briefly a number of ways in which educational objectives have been determined.[45] His classification includes: formulation of rather vague and general "faith" objectives, and more recent studies of life objectives which are based on careful activity analyses of social situations and difficulty analyses. Uhl describes how objectives may be derived by: (1) reference to an ideal form of society, (2) analysis of "good character," (3) analysis of one class of individuals, (4) analysis of the nature of children, (5) special reference to a certain branch of knowledge, (6) analysis of sociological values,

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F. L. Whitney, "The Analysis of Teaching Functions," *Journal of Educational Research*, VII (April, 1923), 297–308.

[44] "The Determination of Objectives in the Professional Education of Teachers," *Yearbook Number XII of the National Society of College Teachers of Education*, pp. 21–62. Chicago: University of Chicago Press, 1923.

John Guy Fowlkes, "Some Other Functions of Universities," *Teachers Journal and Abstract*, III (June, 1928), 382–8.

John W. Withers, "Scope, Functions, and Purposes of the Departments of Schools of Education," *Journal of Educational Sociology*, I (April, 1928), 452–67.

Sylvester Schmitz, *The Adjustment of Teacher Training to Modern Educational Needs.* Washington: Catholic Education Press, 1927. Pp. 286.

H. B. Alberty, "The Teacher-Training Program of the Ohio State Department of Education," *Educational Research Bulletin*, VII (May 16, 1928), 199–206. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

H. L. Donovan, "The Duality of the Teachers College," *Peabody Journal of Education*, VI (January, 1929), 195–203.

[45] F. L. Whitney, "The Determination of Objectives in Teacher-Training," *Educational Administration and Supervision*, IX (May, 1923), 277–89.

and (7) activity analysis.[46] Reference should be made to several treatments of the curriculum which include discussions of the formulation of educational objectives;[47] in most respects the information presented is as applicable at the college level as at the secondary level.

It seems appropriate to list examples of two major current tendencies in the formulation of educational objectives—(1) the philosophical or subjective method and (2) the method of activity analysis or the social survey, which may be interpreted broadly to cover the various analyses of activities, needs, practices, shortages, difficulties, etc. Certain publications of Bobbitt,[48] Bode,[49] Kilpatrick,[50] and the National Society for the Study of Education[51] may be used as illustrations of the subjective or philosophical method in the statement of aims. Certain works of Bobbitt,[52] Charters,[53] and

[46] W. L. Uhl, *Secondary School Curricula*, chapter ix. New York: Macmillan Co., 1927.

[47] Franklin Bobbitt, *How to Make a Curriculum.* Boston: Houghton Mifflin Co., 1924. Pp. 292.

W. W. Charters, *Curriculum Construction.* New York: Macmillan Co., 1923. Pp. 352.

Henry Harap, *The Technique of Curriculum Making.* New York: Macmillan Co., 1928. Pp. xii + 316.

L. A. Williams, *The Making of High-School Curricula.* Boston: Ginn and Co., 1928. Pp. x + 234.

[48] Franklin Bobbitt, *The Curriculum.* Boston: Houghton Mifflin Co., 1918. Pp. viii + 296.

[49] Boyd H. Bode, *Modern Educational Theories*, Part II. New York: Macmillan Co., 1927.

[50] William Heard Kilpatrick, *Education for a Changing Civilization.* New York: Macmillan Co., 1926. Pp. vi + 144.

[51] *The Foundations of Curriculum-Making.* Twenty-Sixth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1926. Pp. xii + 238.

[52] Franklin Bobbitt and Others, *Curriculum Investigations.* Supplementary Educational Monographs, No. 31. Chicago:

Snedden[54] serve as examples of the technique of activity analysis in the formulation of objectives. In the succeeding section of this chapter other illustrations of the technique as applied to special fields, courses, and divisions of subject matter will be cited.

Determination of Objectives in Special Fields and Divisions of Subject Matter.—Numerous attempts have been made to analyze the aims of a given vocation or field into specific activities and functions and to set up in detail the objectives of a given course or division of subject matter. In the field of education and teacher training a number of such attempts have appeared in the form of textbooks and other publications which have the subject matter organized around analyses of activities engaged in by teachers,[55] difficulties encountered,[56] questions raised by students,[57] or problems and cases.[58]

Department of Education, University of Chicago, 1926. Pp. viii + 204.

Franklin Bobbitt, *Curriculum-Making in Los Angeles.* Supplementary Educational Monographs, No. 20. Chicago: Department of Education, University of Chicago, 1922. Pp. vi + 106.

[53] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study.* Chicago: University of Chicago Press, 1929. Pp. xx + 666.

[54] David Snedden, *Foundations of Curricula: Sociological Analyses.* New York: Teachers College, 1927. Pp. 196.

David Snedden, *Sociological Determination of Objectives in Education.* Philadelphia: J. B. Lippincott Co., 1921. Pp. 322.

[55] W. W. Charters and Douglas Waples. *The Commonwealth Teacher-Training Study.* Chicago: University of Chicago Press, 1929. Pp. xx + 666.

[56] Douglas Waples, *Problems in Classroom Method.* New York: Macmillan Co., 1927. Pp. xxii + 610.

[57] Julia M. Harris, H. L. Donovan, and Thomas Alexander, *Supervision and Teaching of Reading.* Richmond, Virginia: Johnson Publishing Co., 1927. Pp. xxiv + 474.

Activity analysis has been used successfully in determining the objectives and content of courses for the training of pharmacists,[59] secretaries,[60] and workers in character education.[61] Other examples of the case-problem and activity-analysis methods are available in an exposition of these two procedures.[62]

It is possible only to mention a few of the attempts which have been made toward formulation of objectives in the various divisions of subject matter. Even though certain of the illustrations are drawn from the field of secondary education, many of the objectives and in particular the techniques involved are applicable at the college level. The following publications which at least in part are concerned with statements of objectives may be mentioned: English,[63] foreign languages,[64] mathe-

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[58] George D. Strayer, N. L. Engelhardt, and Others, *Problems in Educational Administration.* New York: Teachers College, Columbia University, 1925. Pp. xviii + 756.

E. E. Lindsay, *Problems in School Administration.* New York: Macmillan Co., 1928. Pp. xxvi + 544.

[59] W. W. Charters and Others, *Basic Material for a Pharmaceutical Curriculum.* New York: McGraw-Hill Book Co., 1927. Pp. 366.

[60] W. W. Charters and I. B. Whitley, *Summary of Report on Analysis of Secretarial Duties and Traits.* Service Bulletin, No. 1. New York: National Junior Personnel Service, 1924. Pp. 62.

[61] W. W. Charters, *The Teaching of Ideals.* New York: Macmillan Co., 1927. Pp. xiv + 372.

[62] Carter V. Good, *How to Do Research in Education,* chapter vi. Baltimore: Warwick and York, 1928.

[63] Earl Hudelson, *English Composition: Its Aims, Methods and Measurement.* Twenty-Second Yearbook of the National Society for the Study of Education, Part I, pp. 1–161. Bloomington, Illinois: Public School Publishing Co., 1923.

C. S. Pendleton, *The Social Objectives of School English.* Nashville, Tennessee: C. S. Pendleton, 1924. Pp. 226.

R. I. Johnson, *English Expression: A Study in Curriculum Building.* Bloomington, Illinois: Public School Publishing Co., 1926. Pp. 106.

matics,[65] science,[66] social studies,[67] health education,[68] home economics,[69] industrial arts,[70] art,[71] business education,[72] and music.[73]

Carter V. Good, "English Objectives and Constants in Secondary Schools, "*Peabody Journal of Education*, V (January, 1928), 230–5.

[64] *The Classical Investigation Conducted by the Advisory Committee of the American Classical League*, Part I. Princeton, New Jersey: Princeton University Press, 1924. Pp. 306.

Publications of the Modern Foreign Language Investigation.

P. Hagboldt, "Making the Reading Lesson Effective," *Modern Language Journal*, XI (December, 1926), 129–32.

[65] Raleigh Schorling, *A Tentative List of Objectives in the Teaching of Junior High School Mathematics, with Investigations for the Determining of Their Validity.* Ann Arbor, Michigan: George Wahr, 1925. Pp. 140.

Carter V. Good, "The Mathematics and Science Curricula in Junior and Senior High Schools," *School Science and Mathematics*, XXVII (November, 1927), 863–9.

[66] Elliot R. Downing, "The Biology Course Outlined in Major Objectives," *School Science and Mathematics*, XXVIII (May, 1928), 497–505.

J. O. Frank, "The Need for Standards in Courses in the Teaching of General Science," *General Science Quarterly*, XII (March, 1928), 431–43; also in *School Science and Mathematics*, XXVIII (April, 1928), 380–8.

Special Committee on the Place of Science in Education, "On the Place of Science in Education," *School Science and Mathematics*, XXVIII (June, 1928), 640–64.

[67] Edgar Dawson, *Teaching the Social Studies*, chapter xi. New York: Macmillan Co., 1927. Pp. xvi + 406.

H. G. Shields, "Objectives in Junior College Economics," *Historical Outlook*, XX (March, 1929), 113–4.

[68] W. E. Burkard, *An Analysis of Education Objectives and Outcomes in the Field of Health Education.* Philadelphia: University of Pennsylvania, 1927. Pp. 268.

C. E. A. Winslow and Pauline B. Williamson, *The Laws of Health and How to Teach Them*, Part I. New York: Charles E. Merrill Co., 1925.

[69] Lita Bane, "Major Objectives in Home Economics," *Journal of Home Economics*, XIX (March, 1927), 119–22.

Relations of Colleges with Secondary Schools and Responsibility for the Level of Intellectual Life in General.—Obviously a discussion of the objectives of colleges and universities should include some consideration of the relations of higher institutions with secondary schools and the public. Edmonson suggests that colleges may be of greater help to high schools in these ways: provide adequately trained teachers, maintain effective placement agencies, assist in training teachers in service, give beginners a fair start in college, set up high standards of scholarship, permit selection of best candidates for the college, encourage pupils to continue education, and

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David Snedden, "The Four Goals of Home Economics Teaching," *Teachers College Record*, XXVIII (December, 1926), 387–93.

Carter V. Good, "The High School Curriculum in Home Economics," *Journal of Home Economics*, XIX (December, 1927), 686–90.

[70] David Snedden and Others, *Reconstruction of Industrial Arts Courses*. New York: Bureau of Publications, Teachers College, 1927. Pp. vi + 144.

[71] L. L. Winslow, *Organization and Teaching of Art*. Baltimore: Warwick and York, 1925. Pp. 148.

Carter V. Good, "The Objectives and Status of Art Education in Secondary Schools," *Journal of Educational Method*, VII (February, 1928), 209–13.

[72] L. S. Lyon, *Education for Business*. Chicago: University of Chicago Press, 1922. Pp. xiv + 618.

Frederick J. Weersing, "Some Fundamental Problems in the Improvement of Commercial Education," *California Quarterly of Secondary Education*, III (June, 1928), 327–36.

Carter V. Good, "The High School Curriculum in Commercial Education," *Journal of Commercial Education*, LVI (November, 1927), 263–5.

[73] Carter V. Good, "The Music Curriculum in Secondary Schools," *American Educational Digest*, XLVIII (December, 1928), 176, 178.

cooperate in defining requirements in high-school units.[74] A recent annotated bibliography of one hundred articles is of interest.[75] Addresses by Lowell and Dorsey should be mentioned.[76]

The 1928 yearbook of the Department of Superintendence has chapters on the relationship between high school and college and on college admission requirements.[77] The important 1929 yearbook of the same organization should be reviewed briefly.[78] Part II is devoted to a consideration of problems of articulation at the elementary level and therefore is not of primary interest in a treatment of higher education. Part III deals with articulation at the secondary-school level from the junior high school through the junior college. The topics treated are: issues in secondary education; special functions of secondary schools; number, size, and distribution of various secondary-school units; illus-

[74] J. B. Edmonson, "Colleges Are Trying to Be of Greater Help to High Schools," *School Life*, XIV (September, 1928), 8–9.

[75] *The College of Tomorrow: Its Relation to the High School and to Life.* Washington: National Education Association, 1928. Pp. 24.

[76] A. Lawrence Lowell, "The Relation of Secondary Schools to Colleges," *School and Society*, XXVII (March 3, 1928), 247–50.

Susan Miller Dorsey, "The Relation of the Public Schools to Higher Education," *California Quarterly of Secondary Education*, III (April, 1928), 203–13.

Also I. M. Smith, "Cooperation between the High Schools of Michigan and the University of Michigan," *School and Society*, XXIX (March 30, 1929), 420–3. Shows how better understanding is promoted through having principals visit university classes and through principal-student conferences.

[77] *The Development of the High-School Curriculum*, chapters vi and vii. Sixth Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1928.

[78] *The Articulation of the Units of American Education.* Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929. Pp. 512.

trations of new types of school organization and curriculum procedures (University of Chicago Laboratory Schools, the 7–4–2 school system of Kansas City, economy of time in the Salt Lake City schools, the kindergarten-six-four-four plan of organization at Pasadena, the four-year Stephens junior college, and the 6–4–4 plan at Johnstown); standardizing agencies and articulation problems; and a review of research studies bearing on articulation problems at the secondary-school level. Part IV treats articulation at the level of professional and higher education. The topics considered are: articulation problems in the field of higher education, description of types of higher institutions of learning, institutional experiments relative to several phases of senior-college and professional education, methods of admission and matriculation requirements, extent to which students migrate for a college education, age of graduation from college, and a summary of studies relative to training in pharmaceutical education, dental education, medical education, professional training for library service, legal education, and engineering education. Part V discusses articulation of teacher-training agencies, the arts college as a teacher-training institution, and problems for research. Part VI deals with articulation in adult education. Limitation of space does not permit a more detailed statement of the content of this valuable yearbook.

It is possible only to cite a few selected references which deal with the responsibility of the higher institution for the intellectual life of the public and its obligations to the state and nation.[79]

[79] Lotus D. Coffman, "State Universities and Public Education," *Journal of the National Education Association*, XVII (May, 1928), 133–7.

Lotus D. Coffman, "The University and the Times," *School and Society*, XXVIII (November 3, 1928), 530–4.

Standards and Accrediting Requirements in Higher Education.—It will be recognized that there is a definite relationship between objectives and the standards formulated by accrediting organizations or by any other agency. Judd suggests the desirability of a nation-wide study of high schools, colleges, and related institutions as a basis for setting up national educational standards.[80] He recommends that the North Central Association and other regional accrediting organizations join with the American Council on Education in asking for federal subsidization of the investigation; he also suggests the possibility of securing larger appropriations for the interpretation of data collected by the Bureau of Education and of obtaining the aid of the great foundations. Reeves and Russell present detailed data secured from twenty-nine colleges on the list of the North Central

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Lotus D. Coffman, Annie W. Goodrich, and George W. Frasier, "The Responsibility of Higher Institutions of Learning for the Development of American Education," *Teachers College Record*, XXX (November, 1928), 89–121.

David Snedden, "Are Our High Schools, Colleges and Universities Meeting Present-Day Requirements?" *Educational Administration and Supervision*, XIV (October, 1928), 451–60.

Philip W. L. Cox, "The Place of the Serious Student of Civilization," *School and Society*, XXVIII (October 27, 1928), 502–5.

W. T. Sanger, "A Shift of Emphasis in Higher Education," *School and Society*, XXVII (June 23, 1928), 743–5.

Maurice Caullery, *Universities and Scientific Life in the United States.* Cambridge, Massachusetts: Harvard University Press, 1922. Pp. 270.

[80] Charles H. Judd, "A Method of Securing National Educational Standards," *Educational Record*, IX (April, 1928), 81–95; also in *North Central Association Quarterly*, III (June, 1928), 43–55.

Also see *The Articulation of the Units of American Education.* Seventh Yearbook of the Department of Superintendence, chapters xiv, xix. Washington: Department of Superintendence, 1929.

Association.[81] Whitney summarizes junior-college standards as gathered from the published statements of two national, two regional, and twenty-four state standardizing agencies.[82] He groups the standards under the following captions: definition, criteria for organization, inspection and control, accrediting, entrance requirements, curriculum, faculty, student work, graduates and degrees, records, and material aspects.

A few other helpful treatments of standards in colleges and universities may be mentioned.[83]

[81] Floyd W. Reeves and Dale Russell, "Standards for Accrediting Colleges," *North Central Association Quarterly*, III (September, 1928), 214–29.

[82] Frederick L. Whitney, "Present Standards for Junior Colleges," *School Review*, XXXVI (October, 1928), 593–603.

[83] H. W. Hurt, *A Study of College Standards in the United States.* Chicago: College Blue Book, 1923.

H. W. Hurt, *The College Blue Book.* Vol. I, Colleges of Liberal Arts and Sciences (1923). Vol. II, Professional and Technical Education (1924). Vol. III, Music and Fine Arts (1925). Chicago: College Blue Book.

David Allen Robertson, *American Universities and Colleges.* New York: Charles Scribner's Sons, 1928. Pp. xii + 884.

Rita S. Halle, *Which College?* New York: Macmillan Co., 1928. Pp. xx + 268.

Accredited Higher Institutions. Bureau of Education Bulletin No. 41, 1927. Washington: Bureau of Education. Pp. vi + 40.

W. C. John, *The Requirements for the Bachelor's Degree in the United States.* Bureau of Education Bulletin No. 7, 1920. Washington: Bureau of Education. Pp. 314.

F. J. Kelly and S. P. Capen, *The Influence of Standardizing Agencies in Education.* Minneapolis, Minnesota: University of Minnesota, 1928. Pp. 24.

E. U. Rugg, "The Trend toward Standardization in Teachers Colleges," *National Education Association Proceedings*, Vol. LXV, pp. 913–28. Washington: National Education Association, 1927.

Jesse H. Newlon, "How Can Standardizing Agencies Best Serve the Cause of Education in the Future?" *North Central Association Quarterly*, III (September, 1928), 208–13.

Summary and Conclusion.—This chapter has been devoted to a consideration of objectives and standards in higher education from the following points of view: treatments of educational aims in general and general discussions of aims and values in higher education; separate analyses of the objectives of the graduate school, liberal-arts institution, junior college, and teacher-training institution; methods of determining educational objectives; statements of objectives in special fields and divisions of subject matter; relations of higher institutions to the secondary school and the public; and standards and accrediting requirements in higher education. After determining the objectives of a given division of the school system, the aims of a given course, or the activities of a given vocation, the next problem is to select and organize the subject matter which will aid in the accomplishment of the objectives in question. The next chapter, therefore, will be devoted to a consideration of the selection and organization of subject matter.

Supplementary References

Angell, J. R. "The Endowed Institution of Higher Education and Its Relation to Public Education," *Educational Record*, IX (April, 1928), 65–80; also *School and Society*, XXVII (April 14, 1928), 431–9.
Address before the Department of Superintendence at Boston, March 1, 1928.

Bell, J. A. *Resources and Standards of Y. M. C. A. Colleges.* Washington: American University, 1925. Pp. 164.

Kenneth L. Homes, "The Fixing of Standards in Higher Education," *School and Society*, XXVII (March 31, 1928), 395–6.

R. E. Iles, "Standardizing the Negro Colleges," *Peabody Journal of Education*, VI (September, 1928), 96–101.

G. H. Estabrooks, "College Standards," *Education*, XLIX (November, 1928), 178–81.

Boyd, P. P. "Standards of Accrediting," *School and Society*, XXVIII (October 6, 1928), 414–7.
Lists the factors which the author considers important in accrediting colleges.

Boynton, F. C. "What the Colleges Can Do for the Public Schools," *National Education Association Addresses and Proceedings*, 1925, pp. 845–55.

Brown, H. A. "On What Should State Teachers Colleges Place Chief Emphasis in Developing Higher Standards?" *National Education Association Addresses and Proceedings*, 1926, pp. 877–89.

Brown, H. A. "What Should Wisconsin Normal Schools Do before they Grant Degrees?" *Educational Administration and Supervision*, XII (September, 1926), 393–412.

Cates, E. E. "Why the College?" *Education*, XLVII (June, 1927), 621–4.

Chandler, F. W. "The Function of The Liberal Arts College in a University," *Association of American Colleges Bulletin*, X (May, 1924), 153–78.

Conkle, E. P. "Some Higher Aims of the University," *Education* XLVII (September, 1926), 28–51.

Cox, P. W. L., Peters, C. C., and Snedden, David. *Objectives of Education.* Second Yearbook of the National Society for the Study of Educational Sociology. New York: Bureau of Publications, Teachers College, Columbia University, 1929. Pp. viii + 174.

Cummins, R. A. "Functions of the Supervisor of Student-Teaching," *Educational Administration and Supervision*, IX (May, 1923), 272–6.

Doudna, E. G. "What the Colleges Can Do for the Public Schools," *National Education Association Addresses and Proceedings*, 1925, pp. 841–5.

Fair, Eugene. "The Teachers College and the Rural School," *National Education Association Addresses and Proceedings*, 1926, pp. 589–91.

Gosling, T. W. "Relationship between a University and the Public Schools," *School and Society*, XXIII (March 27, 1926), 383–8.

Haggerty, M. E. "The Relations of Departments of Education to Other Departments of the College or University," *Yearbook Number XI of the National Society of College Teachers of*

Education, pp. 65–82. Chicago: University of Chicago Press, 1922.

Harris, M. A. "Questionnaire on the Function of the College," *School and Society*, XI (May 1, 1920), 530–2.

Hellems, F. B. R. "Education, Liberal or Limited?" *School and Society*, XVII (January 27, 1923), 90–5.

Higbie, E. C. "Wider Concept in Teacher Training," *American Educational Digest*, XLVI (June, 1927), 440–2.

Hills, E. C. "College Standards," *School and Society*, XV (May 6, 1922), 509–11.

Koos, L. V. "Comparison of Aims From Elementary School to University," *Educational Review*, LXIX (April, 1925), 176–83.

Koos, L. V. *Standards in Graduate Work in Education.* Bureau of Education Bulletin No. 38, 1921. Washington: Bureau of Education. Pp. 18.

Leonard, R. J. "Junior College from the Standpoint of the University," *Teachers College Record*, XXVIII (February, 1927), 543–50.

Mead, A. R. "The Ethics of Student Teaching," *Educational Administration and Supervision*, VI (October, 1920), 393–407.

Pound, R. "Place of the University in Training for Citizenship," *School and Society*, XII (November 27, 1920), 505–13.

Russell, W. F. "Relation of the College of Education to the College of Liberal Arts," *Teachers College Record*, XXVIII (January, 1927), 439–44.

Russell, W. F. "What Standards Should Determine the Length of a College Course?" *School and Society*, XIV (October 29, 1921), 355–8.

Shyrock, R. H. "Teachers Colleges and Schools of Education—Competition or Cooperation?" *Educational Administration and Supervision*, XII (March, 1926), 170–8.

Swanson, H. G. "Aims in Education for Student Teachers," *Educational Administration and Supervision*, VIII (August, 1922), 297–302.

Van Houten, L. H. "Raising and Maintaining Standards of Scholarship in Teacher-Training Institutions," *Educational Administration and Supervision*, XI (November, 1925), 535–49.

Wilbur, R. L. "Maintaining Standards without Excessive Standardization," *School and Society*, XX (November 15, 1924), 607–12.

Wilkins, E. H. "The Aims of Oberlin College," *School and Society*, XXIX (March 9, 1929), 334–6.

Willis, H. E. "Next Step in Higher Education," *School and Society*, XXIV (August 21, 1926), 217–26.

Woodbridge, F. J. E. "How to Maintain Standards without Excessive Standardization," *School and Society*, XX (December 20, 1924), 767–73.

"No Recognized Line between High School and College Subjects," *School Life*, X (September, 1924), 12.

Chapter IV

SELECTION AND ORGANIZATION OF SUBJECT MATTER: THE CURRICULUM

Pupil Adjustment Involves Curriculum Reorganization. It will not be disputed that since the opening of the present century the nature and needs of the child have replaced a fixed and static curriculum as the educational center of gravity. This fact is evidenced in a number of ways: interest in individual differences, individualized techniques of instruction, revision of the curriculum and administrative plans intended to provide for individual differences, introduction of appreciation subjects, wide use of psychological and educational tests, case study and pupil accounting, development of personnel organizations, junior high school movement, studies of acceleration and retardation, educational and vocational guidance, extra-class activities, activities of such groups as the Progressive Education Association and the National Society for the Study of Education, contents of certain yearbooks, and a variety of educational discussions and investigations which have as a central theme the educational adjustment of the individual pupil. Among these publications is a comprehensive treatise[1] by Professor Mort.

The Gap between the Curriculum, Life, and the Nature and Needs of the Learner.—It is recognized that rebellion

[1] Paul R. Mort, *The Individual Pupil in the Management of Class and School.* New York: American Book Co., 1928. Pp. 384. The paragraph on pupil adjustment is adapted from the writer's book review in the *School Review*, XXXVII (March, 1929), 230–2.

against existing tradition and practice in the school has not been wanting for more than a century. The student of the history of education is familiar with the work and writings of Rousseau, Pestalozzi, Herbart, Froebel, Colonel Parker, Dewey, and a score of workers actively engaged at the present time in the promotion of educational reforms. However, in spite of such efforts, according to the version of Rugg and Shumaker in *The Child-Centered School,*[2] a wide gap between materials of instruction, the needs of American life, and the needs and interests of the child existed before 1890, while only a piecemeal administrative reorganization of the school system between 1890–1928 resulted from the efforts of school administrators, educational scientists, and the so-called progressive-education group. The Progressive Education Association was established as recently as 1919.

It is of interest to note some of the recent publications which describe the new schools; in addition to the previously mentioned volume by Rugg and Shumaker is a popularized description[3] of progressive schools which should be summarized briefly because of its emphasis on curriculum reorganization. In the preparation of the latter book Washburne, a school superintendent and investigator, joined forces with Stearns, a journalist, in order to give to parents a non-technical and interestingly written account of progressive practices in the education of children. The book is organized in three parts.

[2] Harold Rugg and Ann Shumaker, *The Child-Centered School:* An Appraisal of the New Education. Yonkers-on-Hudson, New York: World Book Co., 1928. Pp. xiv + 360.

[3] Carleton Washburne and Myron M. Stearns, *Better Schools:* A Survey of Progressive Education in American Public Schools. New York: John Day Co., 1928. Pp. xvi + 342. The summary is adapted from the writer's book review in the *Elementary School Journal,* XXIX (February, 1929), 473–5.

Part I discusses the relation of schools to the race and the child, the origin and organization of better schools, and the relation between schools and politics. Part II describes a number of efforts to reorganize the curriculum including the revision of the Denver curriculum, the Winnetka investigations, Rugg's social-science material, the Rochester junior high school program, the cooperative plan at the University of Cincinnati, Gary's work-study-play plan, etc. Part III discusses various aspects of method: interest, new discoveries in reading and arithmetic, platoon plan, project method, Dalton and Winnetka plans of individualized instruction, child guidance, junior-college procedures, and the Morrisonian technique of teaching. A few other publications which present a picture of progressive types of reorganization and curriculum revision should be mentioned.[4]

Types of Current Publications in the Curriculum Field.—According to Charters[5] wide-spread national interest in educational ideas has a span of from three to four years. He states that curriculum construction was the

[4] Stanwood Cobb, *The New Leaven:* Progressive Education and Its Effect upon the Child and Society. New York: John Day Co., 1928. Pp. 340.

Adolphe Ferrière, *The Activity School.* New York: John Day Co., 1928. Pp. 340.

Mary H. Lewis, *An Adventure with Children.* New York: Macmillan Co., 1928. Pp. xiv + 250.

E. R. Smith, *Education Moves Ahead.* Boston: Atlantic Monthly Press, 1924. Pp. xiv + 146.

Carleton Washburne and M. M. Stearns, *New Schools in the Old World.* New York: John Day Co., 1926. Pp. xvi + 174.

Harold Rugg and Others, *Curriculum-Making: Past and Present.* Twenty-Sixth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1926. Pp. xiv + 476.

[5] W. W. Charters, "Fads," *Educational Research Bulletin,* VII (October 31, 1928), 326–7. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

most popular subject for discussion from 1924 to 1927, while the project method was at its height of interest from 1917 to 1920; at this writing character education seems to be approaching the center of the educational stage. It is possible to classify roughly with illustrations the numerous publications which have appeared in the curriculum field: treatments of the historical development of curriculum philosophies, materials, and methods;[6] statements of theories, principles, and objectives formulated by individuals;[7] recommendations and reports of committees;[8] surveys and analyses of current practices and techniques in curriculum-making;[9] compilations and

[6] Clifton Johnson, *Old-Time Schools and School-Books.* New York: Macmillan Co., 1925. Pp. xxii + 382.

Willis L. Uhl, *Secondary School Curricula*, Part I. New York: Macmillan Co., 1927.

Harold Rugg and Others, *Curriculum-Making: Past and Present, op. cit.*

[7] Franklin Bobbitt, *The Curriculum.* Boston: Houghton Mifflin Co., 1918. Pp. viii + 296.

Franklin Bobbitt, *How to Make a Curriculum.* Boston: Houghton Mifflin Co., 1924. Pp. 292.

B. H. Bode, *Modern Educational Theories.* New York: Macmillan Co., 1927. Pp. xiv + 352.

W. H. Kilpatrick, *Education for a Changing Civilization.* New York: Macmillan Co., 1926. Pp. vi + 144.

Harold Rugg and Others, *The Foundations of Curriculum-Making.* Twenty-Sixth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1926. Pp. xii + 210.

[8] F. F. Bunker, *Reorganization of the Public School System.* Bureau of Education Bulletin No. 8, 1916. Washington: Bureau of Education. Pp. vi + 186.

Willis L. Uhl, *Secondary School Curricula.* New York: Macmillan Co., 1927. Pp. xx + 582.

[9] W. W. Charters, *Curriculum Construction.* New York: Macmillan Co., 1925. Pp. xii + 352.

Henry Harap, *The Technique of Curriculum Making.* New York: Macmillan Co., 1928 Pp. xii + 316.

surveys of present-day programs of studies and curriculums;[10] detailed treatments and curriculum studies of the separate school subjects;[11] and digests and investigations of desirable materials and methods of instruction.[12]

Harold Rugg and Others, *Curriculum-Making: Past and Present, op. cit.*

L. A. Williams, *The Making of High-School Curricula.* Boston: Ginn and Co., 1928. Pp. x + 234.

[10] George S. Counts, *The Senior High School Curriculum.* Supplementary Educational Monographs, No. 29. Chicago: Department of Education, University of Chicago, 1926. Pp. xii + 160.

F. J. Kelly, *The American Arts College.* New York: Macmillan Co., 1925. Pp. xiv + 198.

L. V. Koos, *The Junior-College Movement.* Boston: Ginn and Co., 1925. Pp. xii + 436.

T. H. Napier, *Trends in the Curricula for Training Teachers.* Peabody Contributions to Education, No. 27. Nashville, Tennessee: George Peabody College for Teachers, 1926.

M. L. Robinson, *The Curriculum of the Woman's College.* Bureau of Education Bulletin No. 6, 1918. Washington: Bureau of Education. Pp. 140.

[11] Advisory Committee of the American Classical League, *The Classical Investigation,* Part I, General Report. Princeton, New Jersey: Princeton University Press, 1924. Pp. 306.

Modern Foreign Language Study. For a list of studies and investigations see Robert Herndon Fife, "The Modern Foreign Language Study in the United States," *Educational Record,* IX (October, 1928), 189–208; also V. A. C. Henmon, "Some Significant Results of the Modern Foreign Language Study," *Journal of Educational Research,* XIX (February, 1929), 79–91.

The Development of the High School Curriculum. Sixth Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1928. Pp. 584.

[12] Franklin Bobbitt and Others, *Curriculum Investigations.* Supplementary Educational Monographs, No. 31. Chicago: Department of Education, University of Chicago, 1926. Pp. viii + 204.

W. W. Charters and Others, *Basic Material for a Pharmaceutical Curriculum.* New York: McGraw-Hill Book Co., 1927. Pp. 366.

Techniques of Curriculum Investigation and Study.—Certain of the previously cited curriculum publications may appear from the titles involved to belong to the field of secondary education. However, in such instances the procedures described and the principles summarized are also applicable at the college level. A similar statement with respect to certain of the references listed below is appropriate. Phelps presents a brief but helpful statement of the methods available for studying curriculums.[13] These techniques together with illustrations are: philosophical and subjective,[14] job analysis or activity analysis,[15] committee-conference,[16] quantitative,[17] and experimental.[18]

W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study.* Chicago: University of Chicago Press, 1929. Pp. xx + 666.

G. T. Buswell and C. H. Judd, *Summary of Educational Investigations Relating to Arithmetic.* Supplementary Educational Monographs, No. 27. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 212.

W. S. Gray, *Summary of Investigations Relating to Reading.* Supplementary Educational Monographs, No. 28. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 276.

F. D. Curtis, *A Digest of Investigations in the Teaching of Science in the Elementary and Secondary Schools.* Philadelphia: P. Blakiston's Son and Co., 1926. Pp. x + 342.

R. L. Lyman, *Summary of Investigations Relating to Grammar, Language, and Composition.* Supplementary Educational Monographs, No. 36. Chicago: Department of Education, University of Chicago, 1929. Pp. viii + 302.

[13] Shelton Phelps, "Curriculum Construction," *Peabody Journal of Education,* V (January, 1928), 223–9.

[14] Franklin Bobbitt, *The Curriculum, op. cit.*

B. H. Bode, *Modern Educational Theories, op. cit.*

W. H. Kilpatrick, *Education for a Changing Civilization, op. cit.*

Harold Rugg and Others, *The Foundations of Curriculum-Making, op. cit.*

Collings gives a slightly different classification of methods of curriculum research.[19] Since the phrases are in a large measure self-explanatory they are listed without comment: activity analysis, listing of objectives, frontier thinking, child activity, adult needs, median present practice, social statistics, and educational shortage.

Formulation of Educational Objectives.—In view of the fact that the preceding chapter was concerned with a detailed statement of objectives, this problem will be treated rather briefly at this time. After listing the various methods available for use in the formulation of educational objectives Uhl decides that further progress in the derivation of aims can be made only by analysis

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[15] Franklin Bobbitt and Others, *Curriculum Investigations, op. cit.*

W. W. Charters, *The Teaching of Ideals.* New York: Macmillan Co., 1927. Pp. xiv + 372.

W. W. Charters and Isadore B. Whitley, *Analysis of Secretarial Duties and Traits.* Baltimore: Williams and Wilkins Co., 1924. Pp. 186.

W. W. Charters and Others, *Basic Material for a Pharmaceutical Curriculum, op. cit.*

W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study, op. cit.*

[16] Franklin Bobbitt, *Curriculum-Making in Los Angeles.* Supplementary Educational Monographs, No. 20. Chicago: Department of Education, University of Chicago, 1922. Pp. vi + 106.

[17] Florence B. Stratemeyer and Herbert B. Bruner, *Rating Elementary School Courses of Study.* Studies of the Bureau of Curriculum Research, Bulletin No. 1. New York: Teachers College, Columbia University, 1926. Pp. xiv + 194.

[18] For an account of the experimental work done in the curriculum field in the various laboratory schools see Harold Rugg and Others, *Curriculum-Making: Past and Present, op. cit.*

[19] Ellsworth Collings, "Review of Harap's *The Technique of Curriculum Making*," *Journal of Educational Research,* XVIII (September, 1928), 159–60.

of society.[20] He summarizes a number of investigations of objectives made in terms of social activities and individual capacities, tendencies, and interests—analysis of social activities with special reference to: (1) certain communities, (2) the major lines of human experience, (3) certain institutional organizations, (4) social-activities occupations, and (5) certain subjects of the curriculum. Uhl also discusses at some length how curriculums are affected by objectives. The technique of activity analysis may be illustrated by summarizing the studies reported in Bobbitt's monograph.[21]

Professor Bobbitt, with the cooperation of a number of graduate students, has prepared a monograph which describes the techniques of certain curriculum investigations and reports the results. In the first chapter the author sets forth his fundamental point of view and defends the technique of activity analysis as a method of curriculum investigation and as a guide in curriculum construction. The critics who maintain that the curric-

[20] Willis L. Uhl, *Secondary School Curricula*, chapters ix, x. New York: Macmillan Co., 1927.

[21] Franklin Bobbitt and Others, *Curriculum Investigations*, *op. cit.* The summary is adapted from the writer's book review in the *School Review*, XXXV (January, 1927), 73–4.

Also see W. W. Charters, "What Teachers Ought to Do," *Educational Research Bulletin*, VIII (January 23, 1929), 32–3. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

W. W. Charters, "The Curriculum and the Future," *Journal of Educational Research*, XIX (February, 1929), 141–2.

Fred C. Ayer, "The Duties of Public-School Administrators," *American School Board Journal*, LXXVIII (February, 1929), 39–41, 137–8; (March, 1929), 39–41, 137; (April, 1929), 39–41.

Douglas Waples, "Techniques in Selecting Theoretical Content for Professional Courses," *Studies in Education*, pp. 58–65. Yearbook number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

ulum should be determined in terms of the philosophy and theory of education will find their objections to activity analysis carefully met in this first chapter and also in the interpretative discussions of succeeding chapters. Since relatively few individuals have achieved the highest and most desirable levels of human performance, a system of education may well seek ultimately to bring all individuals toward this high level, in so far as native capacity and environment will permit. Eventually the curriculum-maker may have to analyze the activities of different ability groups in order to determine what level of performance members of a given group should attain. The activities of childhood and of all growth levels need to be analyzed before one can be certain what activities are appropriate for a given age or growth level. However, the author considers it advisable, as a starting point, to analyze human activities at the highest adult level, not by way of discovering what the child should do but for the assistance such an analysis gives in determining the activities normal at earlier stages.

An investigation of the major fields of human concern was made by an examination of the frequency of the topics listed in the *Reader's Guide to Periodical Literature* covering the years 1919–21 inclusive, a study of the column inches of space devoted to each topic in *The Encyclopaedia Britannica*, a classification of the topics apparently referred to by the ten thousand most frequently used English words, and a study of the topics treated in the *Literary Digest*. An effort was made to determine the duties and traits of a good citizen by analyzing newspaper editorials, magazine articles on citizenship, and the opinions of leading citizens as expressed in interviews. Civic and social shortcomings were studied by an examination of the editorials of news-

papers and magazines. The social problems of the labor group were determined by an analysis of ten widely used books and seven labor periodicals which deal with labor problems. A study of essays was made to discover the characteristics of human behavior that are approved and disapproved; a canvass of books, magazine articles, and books of etiquette was made to determine approved social behavior. Shortcomings in the written English of adults were discovered by an analysis of letters written for newspaper publication. The science articles in a random sampling of five general magazines and three books of popular science were studied to determine the mathematics used in popular science. The play activities of persons of different ages were discovered by having each individual check in a comprehensive list of play activities those in which he had engaged of his own volition and as play within the week preceding the investigation. The grade-placement of poems was investigated by analyzing courses of study, elementary-school readers, and books written by specialists in the teaching of English.

The author shows clearly that the frequency with which topics appear and the space devoted to them are not necessarily accurate indices of the relative importance of the topics. However, the fact that certain topics are frequently discussed shows them to be matters of major concern and therefore of significance to education; at least, frequency figures are one type of tangible evidence that can be used in evaluating the various fields of human concern. The monograph suggests the wide range of opportunity for investigation in the field of activity analysis as a guide in curriculum-making.

Some Helpful Treatments of the Techniques of Curriculum Reorganization.—For further information concerning the formulation of objectives and the selection and

organization of subject matter the reader is referred to the works of Bobbitt,[22] Charters,[23] Harap,[24] and Williams.[25] A yearbook committee composed of Bagley, Bobbitt, Bonser, Charters, Counts, Courtis, Horn, Judd, Kelly, Kilpatrick, Rugg, and Works agreed on fifty-eight statements which they considered expressive of the best available principles to be observed in taking the next forward steps in curriculum-making.[26] Briggs lists twenty-seven questions which he maintains must be answered before the problems in the curriculum field can be satisfactorily solved.[27] Monroe and Herriott have prepared a helpful bulletin which deals with curriculum reconstruction in terms of its historical evolution, objectives, and selection and organization of materials of instruction.[28] Another bulletin prepared under Monroe's direction includes a chapter which summarizes the curriculum research of a decade.[29] According to the classification employed, curriculum research is of five major types: (1) activity analysis, (2) determination of consensus of opinion, (3) determination of consensus of school practice, (4) analysis of textbooks, and (5) determination of pupil reactions.

[22] Franklin Bobbitt, *How to Make a Curriculum, op. cit.*

[23] W. W. Charters, *Curriculum Construction, op. cit.*

[24] Henry Harap, *The Technique of Curriculum Making, op. cit.*

[25] L. A. Williams, *The Making of High-School Curricula, op. cit.*

[26] Harold Rugg and Others, *The Foundations of Curriculum-Making, op. cit.*

[27] Thomas H. Briggs, *Curriculum Problems.* New York: Macmillan Co., 1926. Pp. xvi + 138.

[28] Walter S. Monroe and M. E. Herriott, *Reconstruction of the Secondary-School Curriculum: Its Meaning and Trends.* University of Illinois Bulletin, Vol. XXV, No. 42. Urbana, Illinois: University of Illinois, 1928. Pp. 120.

[29] Walter S. Monroe and Others, *Ten Years of Educational Research, 1918–1927.* University of Illinois Bulletin, Vol. XXV, No. 51. Urbana, Illinois: University of Illinois, 1928. Pp. 368.

Selection and Organization of Subject Matter.— Obviously, after an analysis of society has revealed the detailed and specific objectives to be attained, these aims must be organized and definite pupil activities and materials of instruction must be provided to make possible the accomplishment of the objectives in question. Such pupil activities and subject matter must be organized in definite teaching and learning units. Limitations of space permit little more than a brief statement of the nature of certain valuable contributions which provide detailed information concerning the selection and organization of subject matter. Parker emphasizes that the content of the curriculum should be adapted to social need which varies historically, between different communities, and between different groups of students within the same community or institution.[30] He discusses certain other important principles: selection of topics or units of *greatest* social value, intensive study of a few topics rather than an encyclopedic treatment, and determination of the order of units on the basis of the needs, capacities, and interests of students rather than on the basis of the subject itself or the interests of a specialist in the subject. Uhl presents a detailed discussion of curriculum construction in terms of the learner's equipment, interests, and needs, community needs, and the school plant.[31]

Charters has prepared a concise statement of the steps or rules in curriculum construction:[32]

First, determine the major objectives of education by a study of the life of man in its social setting.

[30] Samuel Chester Parker, *Methods of Teaching in High Schools*, chapter iv. Boston: Ginn and Co., 1920.

[31] Willis L. Uhl, *Secondary School Curricula*, Parts IV, V, VI.

[32] W. W. Charters, *Curriculum Construction*, p. 102.

Second, analyze these objectives into ideals and activities and continue the analysis to the level of working units.

Third, arrange these in the order of importance.

Fourth, raise to positions of higher order in this list those ideals and activities which are high in value for children but low in value for adults.

Fifth, determine the number of the most important items of the resulting list which can be handled in the time allotted to school education, after deducting those which are better learned outside of school.

Sixth, collect the best practices of the race in handling these ideals and activities.

Seventh, arrange the material so obtained in proper instructional order, according to the psychological nature of children.

The Teaching Unit.—Morrison's treatment of the teaching unit is outstanding.[33] He recognizes five types of teaching and finds the unit and learning product different in each instance. In the science type of teaching the objectives are adaptations in the form of understandings of principles or processes in the relation of cause and effect; the method of learning is a process of reflection and rationalization; the product is an intelligent attitude toward some aspect of the environment or of a science. Examples of this type of teaching are found in grammar; principles of ethics and logic; physical, biological, and social sciences; home management and home economics; the theory of music and other fine arts; and transportation and commercial law. Illustrative units from courses in the physical, biological, and social sciences follow:[34]

[33] H. C. Morrison, *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press, 1926. Pp. viii + 662.

[34] *Ibid.*, chapters xi, xii.

Physics (normally senior high school or junior college)

1. The Molecular Nature of Matter.
2. Force and Motion.
3. Work and Energy.
4. Thermometry and Expansion.
5. Heat.
6. Magnetism.
7. Static Electricity.
8. Current Electricity.
9. Induced Currents.
10. Nature and Transmission of Sound.
11. Musical Sounds.
12. Nature and Propagation of Light.
13. Optical Instruments.

Chemistry (normally senior high school or junior college)

1. Nature and Composition of Matter.
2. Nature of Chemical Change.
3. Oxidation.
4. Elemental Nature of Matter.
5. Equivalent Weights.
6. Formulas and Equations.
7. Solution and Colloidal State.
8. Acids, Bases, and Salts.
9. The Nature of Metallic Elements.
10. The Nature of Non-Metallic Elements.
11. Chemical Equilibrium.
12. The Cycle of Carbon in Nature.
13. Periodic Classification of Elements.

Biology (normally senior high school or junior college)

1. The Cell.
2. Specialization of Cells in Organisms.
3. Metabolism.
4. Growth.
5. Organic Response of Plants and Animals.

6. Reproduction.
7. Heredity.
8. Evolution in Plants and Animals.

The Worker in Modern Society (senior high school or junior college)

1. What It Means to Work Together in Modern Society.
2. The Emergence of a Wage-Earning Class.
3. The Worker as a Seller of Labor Power.
4. The Insecurities of the Worker.
5. The Worker's Organization.
6. Personnel Management within the Business Unit.
7. Regulation and Control by Society.

American Political Institutions (senior high school or junior college)

1. Liberty and the Law.
2. The Making of Law.
3. The Enforcement of Law.
4. The Administration of Justice.
5. The Rule of the People.

European History (junior college)

1. The Barbarian Invasions and the Feudal Régime.
2. The Medieval Church and the Contest with the Empire.
3. Islam and the Crusades.
4. The Great Awakening.
5. The Reformation.
6. European Expansion and Colonial Rivalry.
7. The Rise of Modern Democracy.
8. The Rise of Nationalism in Europe.
9. Imperialism.

In the appreciation type of teaching[35] the learning units are in the form of adaptations in terms of which are

[35] *Ibid.*, chapters xviii-xxi.

valued those products of civilization which are and have been contributed by the fine arts, religion, and by the best examples of moral behavior. Learnings in the form of attitudes toward conduct are also included under the appreciation type. Morrison states that the adaptations secured may imply enjoyment or some form of suffering, but always willing devotion, since psychologically the affective side of man's behavior is involved. In the appreciation course no given series of units may be set up for mastery, either in succession or as a whole, with the assumption that the student's education has been effected, as in the case of the science type of teaching. In the appreciation type of learning the adaptations are reached by simple recognition of worth; the learning product may be characterized as "favorable attitude," usually accompanied by emotional coloring. In the field of literature certain types of appreciation beyond those stimulated in the general literature course may be effected in the fields of the drama, epic, lyric poetry, essay, novel, and short story.

The objectives in the practical-arts type of teaching[36] are adaptations which lead to the intelligent manipulation of appliances and molding of materials as exemplified in shop courses in the mechanical arts, cooking, sewing, dressmaking, drawing, painting, and the plastic arts. Here the unit of organization centers around the project. Examples of projects are the overhauling and reassembling of a gas engine and putting it in operation under its own power, construction of a colony poultry-house, and preparation of a suitable breakfast.

Morrison considers the language-arts type of primary importance because out of it arise the adaptations through which access is had to most of the materials of learning.[37] This type of teaching applies to the learn-

[36] *Ibid.*, chapters xxii, xxiii.

[37] *Ibid.*, chapters xxiv-xxvi.

ing of any method of receiving or expressing thought or feeling in the form of continuous discourse. Examples are found in the infant's learning to talk, learning to read and write the vernacular, English composition, foreign languages, stenography, and musical expression. In this type of teaching a whole course may consist of a large unit which seeks to bring about the speaking or writing adaptation. It will be recognized that a foreign language, except in the study of the principles of grammar, cannot be divided into definite units of understanding or mastery as in the case of a science.

In the pure-practice type of learning the objectives are in the form of automatic facility and the learning process is pure repetition until the desired adaptation is established.[38] A number of examples may be mentioned: training the vocal organs in foreign language and music, finger exercises in musical instrumentation, spelling, the tables in arithmetic, and memorization of formulas.

Harap lists qualities of a good teaching unit which should apply at least in part at the level of higher education:[39]

THE QUALITIES OF A GOOD TEACHING UNIT

1. The teaching unit should have a useful purpose.
2. It should reproduce actual life situations as far as possible.
3. It should utilize materials as they occur in life.
4. It should involve a variety of direct sense experiences.
5. It should provide a considerable amount of pupil activity.
6. It should provide for some free, informal association of the pupils.

[38] *Ibid.*, chapter xxvii.

[39] Henry Harap, *The Technique of Curriculum Making*, pp. 185–6.

7. It should provide an opportunity for the pupil to originate, plan, and direct the activity, as far as possible.

8. It should provide an opportunity for manipulative or bodily activity.

9. It should be pleasant.

10. It should provide opportunities to judge, choose, and evaluate.

11. It should contain accurate information.

12. It should be within the available time for the unit.

13. The exposition should be clear enough to make it possible for a new teacher to reproduce the experience.

14. It should state clearly where materials may be obtained.

15. When references are given, they should be complete and exact.

A report of certain experiments in the organization and administration of the curriculum with special reference to teaching units in social science, mathematics, and French is available; four attempts to organize American history around units should be mentioned for illustrative purposes, although the textbooks are not intended for college use.[40] Waples presents a number of problems, cases, and difficulties in the selection, emphasis,

[40] *Studies in Secondary Education. II*, Part II. Supplementary Educational Monographs, No. 26. Chicago: Department of Education, University of Chicago, 1925.

D. C. Bailey, *A New Approach to American History.* Chicago: University of Chicago Press, 1927. Pp. 82.

Howard E. Wilson, *Laboratory Manual in American History.* New York: American Book Co., 1927. Pp. 242.

Mary G. Kelty, *Teaching American History in the Middle Grades of the Elementary School.* Boston: Ginn and Co., 1928. Pp. 748.

Rolla M. Tryon and Charles R. Lingley, *The American People and Nation.* Boston: Ginn and Co., 1927. Pp. xviii + 654 + xxxviii.

and presentation of subject matter.[41] Uhl discusses for the benefit of the Commission on Unit Courses and Curricula of the North Central Association of Colleges and Secondary Schools: (1) the meaning of a teaching unit, (2) the number of units to be proposed for each school subject, (3) the validity of such units as bases for teaching procedures, and (4) the development and broadcasting of such units by the Commission.[42]

Overlapping and Omissions in the Curriculum.—In chapter ii attention was directed to a decided lack of common agreement and uniformity with respect to the problems and content of given courses in education, authorship of textbooks used, and course titles. The evidence cited in chapter ii will not be repeated at this time, although it seems desirable to list again the studies summarized in that chapter, as well as to mention several other significant investigations of related problems.[43]

[41] Douglas Waples, *Problems in Classroom Method*, pp. 75–104, 261–303. New York: Macmillan Co., 1927.

[42] Willis L. Uhl, "The Organization of Teaching Units as a Problem for the Commission on Unit Courses and Curricula," *North Central Association Quarterly*, III (September, 1928), 180–2.

[43] Goodwin B. Watson, "What Shall Be Taught in Educational Psychology?" *Journal of Educational Psychology*, XVII (December, 1926), 577–99.

Dean A. Worcester, "The Wide Diversities of Practice in First Courses in Educational Psychology," *Journal of Educational Psychology*, XVIII (January, 1927), 11–7.

Dean A. Worcester, "Certain Problems of Curricular Adjustment," *Research Adventures in University Teaching*, pp. 35–66. Edited by S. L. Pressey. Bloomington, Illinois: Public School Publishing Co., 1927.

Frederick E. Bolton, "Overlapping of Courses in Education," *Educational Administration and Supervision*, XIV (December, 1928), 610–23.

Marion E. MacDonald, "A Catalog Study of Courses in Psychology in State Normal Schools and Teachers Colleges,"

Osburn reports an important study of duplication of material in the elementary school, high school, and college, while Koos deals with overlapping in high school and college.[44] Osburn bases his conclusions in part on an analysis of examination questions, courses of study, and textbooks.

Ruediger canvassed his education classes at George Washington University and the University of Southern California in an attempt to discover gaps in their previous training.[45] He states that the number of juniors, seniors, and graduate students who had not studied a given list of subjects in high school or college ranged from 32 per cent for chemistry to 59 per cent for zoology. The number of students who had pursued introductory courses in both high school and college in certain subjects ranged from 5 per cent in zoology to 42 per cent in American history. Ruediger reports the following list of units which one of

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Educational Administration and Supervision, XIII (April, 1927), 272–82.

O. B. Douglas, "The Present Status of the Introductory Course in Educational Psychology in American Institutions of Learning," *Journal of Educational Psychology*, XVI (September, 1925), 396–408.

Alfred L. Crabb, *A Study in the Nomenclature and Mechanics Employed in Catalogue Presentations of Courses in Education.* George Peabody College for Teachers Contributions to Education, No. 21. Nashville, Tennessee: George Peabody College for Teachers, 1926. Pp. 98.

[44] W. J. Osburn, *Overlapping and Omissions in Our Courses of Study.* Bloomington, Illinois: Public School Publishing Co., 1928. Pp. 168.

L. V. Koos, *The Junior-College Movement*, chapter viii. Boston: Ginn and Co., 1925.

Also P. M. Glasoe, "The Deadly Parallelism between High-School and College Courses in Chemistry," *Journal of Chemical Education*, VI (March, 1929), 505–9.

[45] W. C. Ruediger, "Curricular Gaps," *School and Society*, XXVII (March 3, 1928), 274–8.

his classes compromised on as desirable in the completion of a well-rounded secondary education, that is, the period of general education beyond the six grades of the elementary school.

English	4
Mathematics	3
Natural science	3
History and government	3
Geography, commerce, industry, etc	3
Manual arts or home economics	2
Art appreciation	1
Musical appreciation	1
Physical training	2
Electives	8
Total	30

Selection and Evaluation of Textbooks and Professional Readings.—Nearly 450 publications dealing with teaching and school administration were issued[46] each year in 1927 and 1928. Probably 1,500 to 2,000 articles appeared in educational periodicals within twelve months. Since it is humanly impossible for a single individual to read this entire mass of material, methods of evaluating articles and books must be developed as an aid in selecting significant contributions for reading, study, textbook use, and supplementary assignments. Even the comparatively small portion of the total output of educational writings which is perused by a given individual should be subjected to a process of critical evaluation. Undergraduate and graduate students, public-school workers, and investigators are frequently confronted with the necessity of determining the significance of a new book

[46] Joseph L. Wheeler, "Educational Books of 1927," *School and Society*, XXVI (December 31, 1927), 823–35.

Joseph L. Wheeler, "Educational Books of 1928," *School and Society*, XXVIII (December 29, 1928), 801–15.

or article. This judgment involves an evaluation of both content and form.

For the use of the American Library Association and the *Journal of the National Education Association*, Joseph L. Wheeler, with the cooperation of a group of educational leaders in various fields, attempts each year to choose a group of the sixty best educational books of the year; these lists should be of real assistance to teachers and librarians who are concerned with the selection and purchase of new professional books.[47]

Keeping Pace with Educational Literature and New Textbooks through Book Reviews.—Obviously the worker in education must depend to a considerable extent on published book reviews as an aid in deciding whether new publications are to be added to his professional library or selected for classroom use. Certainly the practice of scanning the review departments of six or eight good professional periodicals is an important means of keeping pace with current educational literature. Among the general educational journals most valuable for their careful, analytical evaluations of recent professional books, textbooks, and research works are: *Educational Administration and Supervision*, *Elementary School Journal*, *Journal of Educational Psychology*, *Journal of Educational Research*, and the *School Review*. The *Book Review Digest* indexes important books and gives abstracts of reviews published in about fifty of the most important English and American periodicals. It extends from 1906 to date and appears monthly, cumulating quarterly and annually. Detailed information concerning the evaluation of professional writings and

[47] "Sixty Educational Books of 1927," *Journal of the National Education Association*, XVII (March, 1928), 95–8.

"Sixty Educational Books of 1928," *Journal of the National Education Association*, XVIII (March, 1929), 95–8.

book reviews is available in another source,[48] from which certain of the preceding statements have been adapted.

Characteristics of Good Textbooks.—Today a great deal of careful research goes into the writing of a good educational textbook. Consequently the evaluation of textbooks may very appropriately be discussed in this chapter. Certainly, educational workers are quite frequently confronted with the necessity of selecting appropriate textbooks for personal use, professional libraries, or for students. Worcester[49] discusses certain problems which should be kept in mind by those who write and select college textbooks: general comprehensibility and vocabulary difficulties, burden of detail, titles of tables and graphs, appropriateness for a given group of students, accuracy in mechanics and statements and modern point of view, agreement on minimum essentials (especially for beginners), and outstanding problems yet unsolved in the field studied.

Hall-Quest[50] devotes a chapter to the selection and judging of textbooks and presents lists of standards for evaluating texts in a number of the school subjects. Another chapter is concerned with certain mechanical aids such as summaries, illustrations, questions and problems, references for supplementary reading, cross references, etc. In this same connection three other publications[51] and a forthcoming yearbook[52] of the

[48] Carter V. Good, *How to Do Research in Education*, chapter x. Baltimore: Warwick and York, 1928.

[49] D. A. Worcester, "Some Characteristics of a Good College Textbook," *School and Society*, XXVII (February 18, 1928), 193–6.

[50] Alfred Lawrence Hall-Quest, *The Textbook: How to Use and Judge It*, chapters iv and v. New York: Macmillan Co., 1918.

[51] Margaret Doherty, "The Selection of Textbooks," *Journal of Educational Research*, III (January, 1921), 68–70.

C. R. Maxwell, *The Selection of Textbooks*. Boston: Houghton Mifflin Co., 1921. Pp. 138.

National Society for the Study of Education, which deals with the textbook, should be mentioned.

Rating Courses of Study.—Attention should be directed to attempts which have been made to work out a technique for rating elementary courses of study.[53] The first experiment involves 107 judges and 191 courses of study, distributed among twelve fields such as art, civics, and geography; the second investigation is a survey of fifteen thousand elementary courses of study published from 1915–28.

A Score Card for Rating Term Papers.—An interesting attempt has been made to work out an objective method of evaluating term papers and written projects.[54] The use of such a scheme should make more objective and uniform an instructor's methods in rating the work of his students. Space is not available for reproducing the score card at this point, although it is available in print in tentative form.[55] The items of this score card are such as to be applicable in the selection and organization of subject matter for other purposes than term papers on the part of both student and teacher.

Florence D. Fuller, *Scientific Evaluation of Textbooks.* Boston: Houghton Mifflin Co., 1928. Pp. xvi + 88.

[52] J. B. Edmonson and Others, *The Selection of Textbooks.* Forthcoming Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1930 or 1931.

[53] Florence B. Stratemeyer and Herbert B. Bruner, *Rating Elementary School Courses of Study.* Studies of the Bureau of Curriculum Research, Bulletin No. 1. New York: Teachers College, Columbia University, 1926. Pp. xiv + 194.

Florence B. Stratemeyer and Herbert B. Bruner, *Judging Outstanding Courses of Study,* (in preparation).

[54] Devised by W. A. Brownell of George Peabody College for Teachers and H. P. Rainey of Franklin College.

[55] Carter V. Good, *op. cit.*, chapter x. Several of the preceding paragraphs have been adapted from this book.

Special Techniques and Devices in Dealing with Materials of Instruction.—It is possible only to list a number of experiments of a rather specialized character in the selection, reorganization, and administration of subject matter. There is at present a pronounced tendency toward the organization of materials of instruction around cases, problems, or projects.[56] In some instances committees or groups work toward the solution of a given problem or project. Certain textbook writers have made a canvass of difficulties encountered or questions raised by students and teachers.[57] Of course this is a form of activity analysis. Charters in particular has attempted to collect basic materials of instruction

[56] E. E. Lindsay, *Problems in School Administration.* New York: Macmillan Co., 1928. Pp. xxvi + 544.

Douglas Waples, *Problems in Classroom Method.* New York: Macmillan Co., 1927. Pp. xxii + 610.

George D. Strayer, N. L. Engelhardt, and Others, *Problems in Educational Administration.* New York: Teachers College, Columbia University, 1925. Pp. xviii + 756.

Belva Swalwell, *Problem Method of Teaching Hygiene and Sanitation.* Ann Arbor, Michigan: Edwards Brothers, 1926.

Harry A. Greene, *Work-book in Educational Measurements.* New York: Longmans, Green and Co., 1928. Pp. iv + 156. (Paper.)

W. H. Kilpatrick, "The Project Method in College Courses in Education," *Educational Review,* LXIV (October, 1922), 207–17.

Laura Cairns, "Health Instruction by Means of Committees," *Educational Administration and Supervision,* XIII (September, 1927), 407–10.

[57] Douglas Waples, "The Definition of Teaching Problems on the College Level," *Educational Administration and Supervision,* XIII (September, 1927), 391–8.

Claude C. Crawford, *The Technique of Research in Education.* Los Angeles, California: University of Southern California, 1928. Pp. 320.

Julia M. Harris, H. L. Donovan, and Thomas Alexander, *Supervision and Teaching of Reading.* Richmond, Virginia: Johnson Publishing Co., 1927. Pp. xxiv + 474.

through an analysis of the activities and functions of workers in the field canvassed.[58] In the teacher-training study by Charters and Waples are found a list of teachers' traits and trait-actions, a check-list of teachers' activities, a full list of teachers' activities, discussion of the revision of existing courses and the construction of new courses, and problems for investigation.

A number of efforts have been made to adjust subject matter to individual differences. These experiments include applications of the Dalton and Winnetka plans at the college level and various other schemes where the individual rate of progress and the self-activity of the learner are emphasized.[59] Several forms of cooperative

[58] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study*. Chicago: University of Chicago Press, 1929. Pp. xx + 666.

W. W. Charters and Others, *Basic Material for a Pharmaceutical Curriculum*. New York: McGraw-Hill Book Co., 1927. Pp. 336.

W. W. Charters and Isadore B. Whitley, *Analysis of Secretarial Duties and Traits*. Baltimore: Williams and Wilkins Co., 1924. Pp. 186.

[59] H. W. James, "The Dalton Plan Tested in College," *School Review*, XXXIV (April, 1926), 303–6.

S. S. Stockwell, "Normal School Experiment with the Dalton Plan," *Education*, XLVI (September, 1925), 12–7.

Lynda Weber, "The Use of the Unit-Contract System in Teaching Biology," *School Science and Mathematics*, XXVIII (April, 1928), 399–413.

E. M. Paulu, *Differentiated Assignments in Classroom Management*. Boston: D. C. Heath and Co., 1928.

Stephen D. Stephens, *Individual Instruction in English Composition*. Cambridge, Massachusetts: Harvard University Press, 1928. Pp. 150.

Carleton W. Washburne and Others, *Adapting the Schools to Individual Differences*. Twenty-Fourth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1925. Pp. xiv + 364.

and part-time plans are in operation in an effort to link together the rather abstract and academic subject matter of the college and the practice in industry and life.[60] Variations of this arrangement may be found in the junior-year-abroad plan,[61] field work,[62] interneship, apprenticeship, student teaching, and participation in surveys. A few miscellaneous accounts of innovations in the selection and organization of materials of instruction may be mentioned.[63]

Reorganization of the Curriculum in the Liberal-Arts College.—A number of helpful surveys of the liberal-arts curriculum and discussions of reorganizations are available. F. J. Kelly's survey of the arts college includes a

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W. E. Lessenger, "An Experiment in Individualized Instruction on the College Level," *Studies in Education*, pp. 36–41. Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

C. E. Carrothers, "An Experiment at Rollins College," *School Review*, XXXV (March, 1927), 184–7.

[60] Arthur E. Morgan, "Antioch's Adventure," *Progressive Education*, IV (October-November-December, 1927), 290–4.

W. H. Timbie, "Cooperative Courses in Colleges," *School and Society*, XXVIII (December 8, 1928), 709–14.

[61] David A. Robertson, "The Junior Year Abroad: A Successful Experiment," *Educational Record*, IX (January, 1928), 32–45.

William A. Neilson and Others, "The Junior Year Abroad," *Association of American Colleges Bulletin*, XIV (April, 1928), 216–37.

[62] H. H. Nininger, "An Experiment in Itinerant Education," *School and Society*, XXVIII (October 20, 1928), 484–8.

[63] Robert L. Kelly, "The Colleges as Educational Laboratories," *Association of American Colleges Bulletin*, XIII (November, 1927), 322–47.

"Wisconsin's Experimental College," *Progressive Education*, IV (October-November-December, 1927), 306–10.

G. B. Watson, "A Comparison of Two Types of Illustration for Teaching Educational Psychology," *Journal of Educational Psychology*, XVIII (October, 1927), 433–44.

chapter which deals with admission requirements, dovetailing college requirements with entrance subjects, specific college courses required, methods of securing breadth of training, specialization, and variation in requirements for students of different abilities.[64] One part of a publication edited by R. L. Kelly is devoted to a consideration of the effective college curriculum; Furst discusses college-entrance requirements, while R. L. Kelly describes the plans and principles deemed desirable for curriculum construction: continuity, unity through synthesis, divisions of curriculum materials, the junior-senior college, distribution, and concentration.[65] In a volume edited by Hudelson, Wilkins discusses the reorganization of the college curriculum, Wood describes a college curriculum for women, and Cowling predicts the future of the liberal-arts college.[66] A number of other treatments of curriculum materials in the arts college are of interest.[67]

[64] F. J. Kelly, *The American Arts College*, chapter iii. New York: Macmillan Co., 1925.

Also see W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapters ii, v. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

The Articulation of the Units of American Education, chapters xviii, xxv. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

[65] R. L. Kelly, *The Effective College*, Part II. New York: Association of American Colleges, 1928.

[66] Earl Hudelson, *Problems of College Education*, chapters xxix–xxxi. Minneapolis, Minnesota: University of Minnesota Press, 1928.

[67] Ernest Hatch Wilkins, *The Changing College*. Chicago: University of Chicago Press, 1927. Pp. 132.

M. L. Robinson, *The Curriculum of the Woman's College*. Bureau of Education Bulletin No. 6, 1918. Washington: Bureau of Education. Pp. 140.

The Junior-College Curriculum.—In 1927 Koos reported more than three hundred junior colleges in operation in the United States, with the junior-college divisions of universities omitted from the count.[68] In considering the immediate curriculum problem of the junior college he finds that the average number of semester hours available in the first two years of the separate arts college is 319; in arts colleges of universities, 532; in the public

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Leon B. Richardson, *A Study of the Liberal College.* Hanover, New Hampshire: Dartmouth College, 1924. Pp. 282.

M. W. Kehr, "A Comparative Study of the Curricula for Men and Women in Colleges and Universities of the United States." Doctor's thesis, Cornell University, 1920. See *Journal of the Association of Collegiate Alumnae,* XIV (December, 1920).

Meta Glass, "The College Curriculum for Women," *Association of American Colleges Bulletin,* XIV (March, 1928), 138–45.

Herbert E. Hawkes, "Curriculum Revision at Columbia College," *Educational Record,* X (January, 1929), 29–39.

H. L. Dealey, "Student Interests in Relation to Curricula of Women's Colleges." Unpublished Doctor's thesis, Brown University, 1918.

Clarence Linton and F. B. O'Rear, "What Students in Certain Liberal Arts Colleges Take for the Bachelor's Degree," *Teachers College Record,* XXX (January, 1929), 343–7.

C. T. Fitts and F. H. Swift, "The Construction of Orientation Courses for College Freshmen," *University of California Publications in Education,* Vol. II, No. 3, pp. 149–250. Berkeley, California: University of California Press, 1928.

S. G. Rich, "Suggestions Towards Meeting Some Specific Needs in the Curricula of the Arts Colleges," *Journal of Educational Sociology,* II (October, 1928), 99–107.

F. B. Robinson, "The Liberal Arts Curriculum of the College of the City of New York," *Educational Record,* X (April, 1929), 94–104.

Waldo Shumway, "The New General Curriculum in the College of Liberal Arts and Sciences at the University of Illinois," *School and Society,* XXIX (May 4, 1929), 572–4.

[68] Leonard V. Koos, "The Junior-College Curriculum," *School Review,* XXXV (November, 1927), 657–72.

junior college, 255; and in the private junior college, 192. However, Koos suggests that the comparison with respect to extent of offerings is not so unfavorable to the junior college as may seem to be the case, since many courses listed in college and university catalogues as open to sophomores are seldom or never taken by students of this classification. He also considers the pre-professional work of the junior college in an analysis of 230 curriculums distributed among eighteen professional fields, as listed in Table V. In this table a comparison is made between the amount of general and special work required

TABLE V.—AVERAGE NUMBER OF SEMESTER HOURS OF GENERAL AND SPECIAL WORK REQUIRED IN THE TWO YEARS OF PRE-PROFESSIONAL CURRICULUMS AND IN THE FIRST TWO YEARS OF PROFESSIONAL CURRICULUMS

Profession	General Courses	Special Courses
1. Law	52.8	1.0
2. Medicine	60.0	0.0
3. Dentistry (two years)	64.2	0.3
4. Dentistry (one year)	30.4	0.0
5. Nursing	58.2	3.6
6. Pharmacy	32.4	31.2
7. Education	58.3	2.3
8. Commerce	47.1	12.6
9. Journalism	53.8	6.7
10. Agriculture	39.1	29.0
11. Forestry	36.4	34.0
12. Home economics	40.6	23.6
13. Civil engineering	44.1	23.5
14. Electrical engineering	45.2	23.1
15. Mechanical engineering	43.9	24.4
16. Chemical engineering	52.4	14.2
17. Chemistry	62.8	4.5
18. Mining	48.8	21.9
19. Architecture	33.3	33.8

in the various curriculums. Essentially the same data are presented in greater detail in earlier publications.[69]

The same study includes an analysis of the purposes of the junior-college period as based on published statements of junior colleges. These functions may be summarized briefly as: (1) general education as contrasted with specialized training, (2) quali-quantitative standards of work required for advancement from the lower to the upper division within the university, (3) a "democratizing" aim, that is, adaptation of work to the wide range of ability represented among the students involved, and (4) introduction of the student to fundamental fields of human interest which will give him a realization of the methods and results of some of the more important types of intellectual endeavor. Koos' discussion of the junior-college curriculum of the future is well worth quoting.[70]

> It is too early to make predictions concerning the exact nature, organization, and content of the curriculum of the Junior college of the future. The whole movement is still so new that we have had little experience with it and have, therefore, made few investigational excursions into the curriculum problems involved. Now that we have the units in operation, it should be possible to begin to carry on experimental studies that will afford a better basis both of practice and of prediction. Projects similar to those being carried on in the Laboratory Schools in the School of Education of the University of Chicago; in Stephens College, in Missouri, where the effort is made to set up a junior-college curriculum with the present third high-school year as the first college year; and in the

[69] Leonard V. Koos, *The Junior-College Movement*, chapter iii. Boston: Ginn and Co., 1925.

Leonard V. Koos, *The Junior College.* Research Publications of the University of Minnesota, Education Series, No. 5. Minneapolis, Minnesota: University of Minnesota, 1924. Pp. xxxii + 238, 239–682. 2 Vols.

[70] Leonard V. Koos, "The Junior-College Curriculum," *School Review*, XXXV (November, 1927), 671–2.

Pasadena High School and Junior College must be extended to other institutions.

At the same time it seems possible, even in these early stages of the movement, to descry the larger forces that will determine the general outlines of the development. It seems certain that we shall need in time to forsake the mere reproduction in the junior college of the courses and curriculums now being given in the first two years of colleges and universities. Doubtless junior colleges will continue to afford opportunities to round out general education and to pursue pre-professional curriculums. The scope of their functions will, however, extend beyond this relatively restricted service. Junior colleges will increasingly serve better, just as the high schools below are tending to do, the needs of a much larger proportion of youth than merely those who are to proceed to the higher levels of training. More than this, the entire program of training in the junior-college years, both of those who will continue in college and of those who will not, will be knit up with the work of the school years below, of which it seems logically a part.

In the publication edited by Proctor, Thomas discusses the junior-college curriculum from the following angles: preparatory aspects; wider community service through vocational, cultural, and extension courses; terminal curriculums in agriculture, business management, draftsmanship, engineering, homemaking, nursing, and non-vocational work; and guidance factors, including orientation courses.[71] This discussion, as well as the remainder of the book, is concerned particularly with the junior-college problem in California. Stowe, after listing six objectives of the college, formulates a statement of the courses which should be prescribed in the freshman and sophomore years of the junior college in order to accomplish the objectives in question.[72] In the

[71] F. W. Thomas, "The Junior College Curriculum," *The Junior College*, chapter v. Edited by W. M. Proctor. Stanford University, California: Stanford University Press, 1927.

[72] A. M. Stowe, *Modernizing the College*, chapter iv. New York: Alfred A. Knopf, 1926.

Sixth Yearbook of the Department of Superintendence four main groups of curriculums are discussed: preparatory to the senior college or junior year, a finishing course for those who do not enter college or university, vocational terminal courses, and extension-service offerings.[73] A curriculum for the rural junior college is suggested, and a survey of orientation courses in public junior colleges is reported. Several other publications may be mentioned for the benefit of the reader who wishes additional information concerning curriculum problems in the junior college.[74]

[73] William F. Ewing and Others, "The Junior College Curriculum with Special Reference to Orientation Courses," *The Development of the High School Curriculum*, chapter xi. Sixth Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1928.

[74] Frederick L. Whitney, *The Junior College in America.* Colorado Teachers College Education Series, No. 5. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. xxii + 258.

H. C. Morrison, *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press, 1926. Pp. viii + 662.

George S. Counts, *The Senior High School Curriculum.* Supplementary Educational Monographs, No. 29. Chicago: Department of Education, University of Chicago, 1926. Pp. xii + 160.

J. O. Creager, "Some Neglected Factors in Curriculum Building at the Junior College Level," *Journal of Educational Sociology*, I (October, 1927), 79–85.

Frederick L. Whitney, "Seven Years' Change in the Curriculum of the Junior College," *North Central Association Quarterly*, III (December, 1928), 431–8.

W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapter v. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

The Articulation of the Units of American Education, chapters xiii, xv. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

The Curriculum of the Teacher-Training Institution.—It seems appropriate to cite a number of investigations which are concerned with various forms of reorganization in the subject matter of teacher-training courses and curriculums: the tendency to emphasize activity analysis, problems, projects, cases, questions, difficulties, and workbooks; educational terminology; overlapping and omissions; professionalized subject matter; general curriculum discussions, reports of committees, suggested curriculums and reorganizations, and analyses of current curriculums and tendencies; analyses and suggested reorganizations of education courses; and various types of analyses, reorganizations, and surveys of the special teacher-training subjects other than education courses. However, it is not possible in the available space even to summarize briefly the numerous studies which have been made.

The tendency toward reorganization of the teacher-training curriculum in terms of the activities of teachers in the field has been discussed and profusely illustrated in a preceding section of this chapter and in chapter iii. The references previously cited will not be repeated with the exception of two major contributions;[75] two important yearbooks and a few additional studies will be listed at this time.[76] The problem of standardization of

[75] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study.* Chicago: University of Chicago Press, 1929. Pp. xx + 666.

Douglas Waples, *Problems in Classroom Method.* New York: Macmillan Co., 1927. Pp. xxii + 610.

[76] *The Articulation of the Units of American Education*, chapters xxiv, xxv. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapters iii, v. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

educational terminology was treated at some length in chapter ii and the reader is referred to this discussion for a statement of one of the vexing problems in curriculum reorganization and administration. Overlapping and omissions in the curriculum have been considered in a preceding section of this chapter, although a few supplementary references may be cited.[77]

Reference should be made to a number of other treatments of the teacher-training curriculum: rather general discussions, reports of committees, outlines of suggested curriculums and reorganizations, and analyses of current curriculums and tendencies.[78] In most

A. J. Jones, "The Professional Curriculum in the College of Education in the Light of Job Analysis of Teaching," *Yearbook Number XIII of the National Society of College Teachers of Education.* Chicago: University of Chicago Press, 1924.

Fred C. Ayer, "The Duties of Public-School Administrators," *American School Board Journal*, LXXVIII (February, 1929), 39–41, 137–8.

R. W. Tyler, "Statistical Methods for Utilizing Personal Judgments to Evaluate Activities for Teacher-Training Curricula." Unpublished Doctor's thesis, University of Chicago, 1927.

H. A. Sprague, "The Case-Problems of Student-Teachers," *Educational Administration and Supervision*, XIV (May, 1928), 314–24.

H. W. Sprague, "Student-Teachers' Problems and the Curriculum," *Educational Administration and Supervision*, XII (April, 1926), 274–7.

[77] Frederick E. Bolton, "Overlapping of Courses in Education," *Educational Administration and Supervision*, XIV (December, 1928), 610–23.

Richard E. Hyde, "Waste in Professional Education," *Journal of Educational Research*, XVIII (September, 1928), 144–8.

D. A. Worcester, "A Source of Waste in the Professional Training of Teachers," *Journal of Educational Research*, XVII (February, 1928), 117–24.

[78] *College Courses in Education.* Yearbook Number VIII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1919. Pp. 86.

instances the titles of the references cited are indicative of the content.

Professionalization of Subject Matter.—The professional treatment of subject matter has been receiving a great

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C. E. Chadsey and Others, "The Undergraduate Curriculum in Education," *North Central Association Quarterly*, I (September, 1926), 149–73.

C. E. Chadsey and Others, "Report of Committee on the Undergraduate Curriculum in Education," *North Central Association Proceedings*, pp. 140–67. Ann Arbor, Michigan, 1925.

M. E. Haggerty, "Specialized Curricula in Teacher Training," *Yearbook Number XV of the National Society of College Teachers of Education*, pp. 3–26. Chicago: University of Chicago Press, 1926.

W. S. Moore, "The Undergraduate Curriculum in Education," *Yearbook Number XV of the National Society of College Teachers of Education*, pp. 26–34. Chicago: University of Chicago Press, 1926.

I. N. Madsen, "The Normal-School Curriculum Through the Eyes of Its Graduates," *Elementary School Journal*, XXIX (November, 1928), 181–8.

J. L. Meader, "The Training School Curriculum," *Educational Administration and Supervision*, XIV (May, 1928), 299–307.

I. L. Kandel, *Fourth Educational Yearbook of the International Institute of Teachers College, Columbia University*, 1927. New York: Bureau of Publications, Teachers College, Columbia University, 1928. Pp. 618. Includes a treatment of teacher training in England, France, Germany, and the United States.

E. S. Evenden, "What Courses in Education Are Desirable in a Four-Year Curriculum in a State Teachers College? What Should Be Their Scope?" *National Education Association Proceedings*, Vol. 64, pp. 889–903. Washington: National Education Association, 1926.

C. H. Judd, "What Should Be the Minimum Essentials of a Four-Year Curriculum for Teachers' Colleges?" *School and Society*, XVIII (July 21, 1923), 61–7.

Harry G. Wheat, "The Curriculum in Education for a Two-Year Normal Course," *Educational Administration and Supervision*, XIV (December, 1928), 643–56.

J. B. Edmonson and A. H. Webster, *Policies and Curricula of Schools of Education in State Universities.* Bureau of Education

deal of attention within the past few years. Two rather general discussions should be mentioned at this time.[79] Later in this chapter certain of the references listed as sources of information concerning curriculum reorganization in the special or academic teacher-training subjects also deal with the professionalization of subject matter. Randolph's study which involves a careful analysis and summary of three-quarters of a century of normal-school experience and discussion is sufficiently important to merit a brief review.[80]

The history of the normal school shows that there has been considerable difference of opinion and practice among educators with regard to the nature of the subject matter in the teacher-training curriculum. At one time the liberal-arts ideal, with a strictly academic curriculum, was in favor, and even today the academic tradition has a marked effect on the work of the subject-matter teacher. A transitional type of organization is found where the goals of sound general education and certain professional purposes are recognized. A third type of normal school emphasizes purely professional studies and in actual practice may have slighted scholarship in subject matter to some extent. Randolph traces the historical develop-

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Higher Education Circular No. 30, 1925. Washington: Bureau of Education. Pp. 32.

T. H. Napier, *Trends in the Curricula for Training Teachers.* George Peabody Contributions to Education, No. 27. Nashville, Tennessee: George Peabody College for Teachers, 1926.

[79] C. C. Fries, "The Training of Teachers: The Problem of Professionalized Subject-Matter," *Educational Administration and Supervision,* XIII (March, 1927), 178–91; also *Education,* XLVIII (November, 1927), 145–162.

E. D. Randolph, *The Professional Treatment of Subject Matter.* Baltimore: Warwick and York, 1924. Pp. 202.

[80] Adapted from the writer's book review in the *School Review,* XXXII (October, 1924), 628–9.

ment of the various attitudes toward the professional curriculum and suggests applications for the treatment of several fields of subject matter. The problem is stated as follows:[81]

> Should teachers' courses in a specified subject-matter (history, geography, arithmetic, or grammar) be given a special treatment that will differentiate them in thoroughgoing fashion from liberal-arts courses in the same field? If so, what should be the basis and methods of differentiation?

Chapter i is entitled, "The Problem in Its Setting." The author indicates the dominance of the academic tradition in the work of the subject-matter teacher in all types of normal schools. The teacher is in a certain sense the conserver of the racial inheritance of human experience and needs the elements of liberal culture in order to see the subject matter in a broad perspective in its relation to the experience of the race. There is no reason for dualism of subject matter and method, of scholarship and professional intelligence, of subject matter and teaching technique, or of modern theory and established practice.[82]

> Thus unconsciously in attempting to respond to the subtler requirements of the service the more enterprising of both "academic" and "professional" teachers in various normal schools of all types have moved from their traditionally aloof positions along lines that tended to converge in an integration of subject-matter and method.

Chapter ii is entitled, "The Development of the Idea of the Professional Treatment of Subject-Matter," and chapter iii, "The Present Situation." The author answers explicitly the first question of his problem by showing that the needs of the service and the characteristic pressures upon teachers demand a treatment of the

[81] E. D. Randolph, *op. cit.*, p. 10.

[82] *Ibid.*, p. 48.

subject matter that will differentiate it from the liberal-arts courses in the same field. A final chapter, "Some Suggested Applications," gives examples of how such differentiation may be effected in the fields of geography, literature, and arithmetic.

Analyses of Education Courses.—Attention is directed to a number of studies and discussions of courses usually included under the general heading of "education" in teacher-training institutions: educational philosophy,[83] educational sociology,[84] educational psychology,[85] and miscellaneous courses in education.[86]

[83] H. H. Horne, "The Basic Content of a Course in the Philosophy of Education," *School and Society*, XXVIII (August 4, 1928), 131–4.

Henry W. Mack, "Comparative Content of Educational Philosophy Textbooks," *Education*, XLIX (December, 1928), 236–44.

[84] I. W. Howerth, "Sociology in a Teachers College Curriculum," *Education*, XLVIII (May, 1928), 561–7.

E. George Payne, "Sociological Basis of the Normal School Curriculum," *Journal of Educational Sociology*, I (September, 1927), 1–10.

William C. Reavis, "The Place of Educational Sociology in the Training of the Secondary-School Principal," *Journal of Educational Sociology*, I (February, 1928), 322–9.

[85] Harold G. Blue, "An Analysis of Five Texts in Educational Psychology," *Phi Delta Kappan*, XI (August, 1928), 41–5.

F. L. Gjesdahl, "The Content of Recent Textbooks on General Psychology." Unpublished Doctor's thesis, New York University, 1922.

Oscar E. Hertzberg, "The Opinion of a Teacher-Training Institution Concerning the Relative Value of Subject-Matter in Educational Psychology to the Elementary School Teacher," *Journal of Educational Psychology*, XIX (May, 1928), 329–42.

R. J. Jarrett, "Status of Courses in Psychology in State Teachers Colleges in the United States." Unpublished Doctor's thesis, George Peabody College for Teachers, 1927.

Marion E. MacDonald, "A Catalog Study of Courses in Psychology in State Normal Schools and Teachers Colleges,"

Analyses of Subject Matter and Method in Curriculums for the Training of Teachers of the Various School Subjects. Useful information concerning current problems, present practices, training, experience, courses, curriculums, and methods involved in the training of teachers of the several secondary-school subjects is available: English,[87] foreign language,[88] industrial arts,[89] mathematics,[90] physical

Educational Administration and Supervision, XIII (April, 1927), 272–82.

[86] W. D. Armentrout, *The Conduct of Student Teaching in State Teachers Colleges.* Colorado Teachers College Education Series, No. 2. Greeley, Colorado: Colorado State Teachers College, 1927. Pp. viii + 198.

A. L. Hall-Quest, *Professional Secondary Education in Teachers Colleges.* Teachers College Contributions to Education, No. 169. New York: Teachers College, Columbia University, 1925. Pp. 126.

Alonzo F. Myers, "The Course in Observation and Participation in Its Relationship to Courses in Principles of Teaching, Methods, School Management, etc.," *Educational Administration and Supervision*, XIV (September, 1928), 404–12.

W. E. Peik, "The Analysis and Evaluation of College and University Courses in Education," *Journal of Educational Research*, XVIII (December, 1928), 345–55.

[87] Allan Abbott, "What the English Teacher Should Know," *English Journal*, College Edition, XVII (April, 1928), 315–20.

Ida M. Jewett, *English in State Teachers Colleges: A Catalogue Study.* Teachers College Contributions to Education, No. 286. New York: Teachers College, Columbia University, 1927. Pp. viii + 176.

Leon R. Meadows, *A Study of the Teaching of English Composition in the Teachers Colleges of the United States.* Teachers College Contributions to Education, No. 311. New York: Teachers College, Columbia University, 1928. Pp. 96.

[88] H. Stuart, *The Training of Modern Foreign Language Teachers for the Secondary Schools in the United States.* Teachers College Contributions to Education, No. 256. New York: Teachers College, Columbia University, 1927. Pp. x + 112.

C. M. Purin, *The Training of Teachers of the Modern Foreign Languages.* Vol. XIII of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

education,[91] science,[92] and social studies.[93] It will be recognized that the type of treatment presented in a number of these studies involves consideration of the problem of professionalized subject matter, which has been discussed in a preceding section of this chapter.

Selection of Subject Matter and Curriculum Construction in the Various School Subjects.—The sources of information cited in the preceding paragraph were concerned primarily with curriculums and courses for the training of elementary- and secondary-school teachers. The subsequent references deal with curriculum reorganiza-

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[89] Fred Strickler, *The Training and Experience of* 480 *Industrial Arts Teachers.* New York: Teachers College, Columbia University, 1927. Pp. 116.

[90] William L. Shaaf, *A Course for Teachers of Junior High School Mathematics.* Teachers College Contributions to Education, No. 313. New York: Teachers College, Columbia University, 1928. Pp. 160.

[91] Ruth Elliott, *The Organization of Professional Training in Physical Education in State Universities.* Teachers College Contributions to Education, No. 268. New York: Teachers College, Columbia University, 1927. Pp. viii + 68.

[92] C. W. Finley, *Biology in Secondary Schools and the Training of Biology Teachers.* Teachers College Contributions to Education, No. 199. New York: Teachers College, Columbia University, 1926. Pp. 80.

E. L. Holton, *A Study of the Professional Training of Teachers of Vocational Agriculture.* Federal Board of Vocational Education Bulletin, No. 122, Agricultural Series, No. 33. Washington, 1927. Pp. 68.

Alice Maria Van De Voort, *The Teaching of Science in Normal Schools and Teachers Colleges.* Teachers College Contributions to Education, No. 287. New York: Teachers College, Columbia University, 1928. Pp. iv + 96.

[93] Lynn H. Halverson, "Geography in Teachers Colleges," *Education,* XLIX (December, 1928), 193–205.

Earle U. Rugg and Ned H. Dearborn, *The Social Studies in Teachers Colleges and Normal Schools.* Colorado Teachers College Education Series, No. 4. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. viii + 162.

tion in courses and curriculums which have not been set up entirely or primarily for the benefit of teachers in training. It will be recognized that certain of the publications listed are concerned chiefly with curriculum problems at the secondary-school level. Some of the references treat in part problems of objectives, methods, and measurement. However, in such cases the references were included because of possible applications at the college level and because of the value of the techniques and methods involved. Limitations of space make it necessary to list the studies without comment: commercial and business education,[94] English and reading,[95] fine

[94] E. G. Blackstone, *Research Studies in Commercial Education.* University of Iowa Monographs in Education, First Series, No. 7. Iowa City, Iowa: University of Iowa, 1926. Pp. 160.

Harry D. Kitson, *Commercial Education in Secondary Schools.* Boston: Ginn and Co., 1929. Pp. viii + 374.

L. S. Lyon, *Education for Business.* Chicago: University of Chicago Press, 1922. Pp. xiv + 618.

F. J. Weersing, "Some Fundamental Problems in the Improvement of Commercial Education," *California Quarterly of Secondary Education,* III (June, 1928), 327–36.

[95] W. S. Gray, *Summary of Investigations Relating to Reading.* Supplementary Educational Monographs, No. 28. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 276. See the *Elementary School Journal* for annual supplements.

Earl Hudelson, *English Composition: Its Aims, Methods and Measurement.* Twenty-Second Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1923. Pp. 1–161.

R. I. Johnson, *English Expression: A Study in Curriculum Building.* Bloomington, Illinois: Public School Publishing Co., 1926. Pp. 106.

R. I. Johnson, "Determining Standards in English Composition," *School Review,* XXXVI (December, 1928), 757–67; XXXVII (January, 1929), 44–8.

C. S. Pendleton, *The Social Objectives of School English* Nashville, Tennessee: C. S. Pendleton, 1924. Pp. 226.

art,[96] foreign languages,[97] home economics,[98] manual and

[96] Lura Beam, "The Place of Art in the Liberal College," *Association of American Colleges Bulletin*, XIII (May, 1927), 265–88.

W. Sargent, *Instruction in Art in the United States.* Bureau of Education Bulletin No. 43, 1918. Washington: Bureau of Education. Pp. 32.

L. L. Winslow, *Organization and Teaching of Art.* [Revised and Enlarged.] Baltimore: Warwick and York, 1928. Pp. 244.

"The Fine Arts in American Education," *Association of American Colleges Bulletin*, XII (April, 1926), 57–102.

[97] R. H. Fife, "The Modern Foreign Language Study in the United States," *Educational Record*, IX (October, 1928), 189–208. Includes a list of the publications of the Committee.

V. A. C. Henmon, "Some Significant Results of the Modern Foreign Language Study," *Journal of Educational Research*, XIX (February, 1929), 79–91.

M. A. Buchanan, *A Graded Spanish Word Book.* Vol. III of the Modern Foreign Language Study. Toronto, Ontario, Canada: University of Toronto Press, 1927. Pp. 196.

Canadian Committee on Modern Languages: Modern Language Instruction in Canada, Parts I and II. Vols. VI and VII of the Modern Foreign Language Study. Toronto, Ontario, Canada: University of Toronto Press, 1928. Pp. xlviii + 548, vi + 852.

B. Q. Morgan, *A German Frequency Word Book.* Vol. IX of the Modern Foreign Language Study. New York: Macmillan Co., 1928.

E. F. Hauch, *A German Idiom List.* Vol. X of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Hayward Keniston, *A Spanish Idiom List.* Vol. XI of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

A. Coleman, *The Teaching of Modern Foreign Languages* in the United States. Vol. XII of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

V. A. C. Henmon and G. E. Vander Beke, *A French Frequency Word Book.* Vol. XV of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

A. Coleman and F. D. Cheydleur, *A French Idiom List.* Vol. XVI of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

industrial arts,[99] mathematics,[100] character and religious

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Studies in Modern Language Teaching. Vol. XVII of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Florence M. Baker, "A Tentative Vocabulary for First Year French Students," *Journal of Education Research,* XVIII (December, 1928), 369–77.

O. F. Bond, "The Organization and Administration of a First-Year French Course at the College Level," *Studies in Secondary Education, II,* pp. 177–200. Supplementary Educational Monographs, No. 26. Chicago: Department of Education, University of Chicago, 1925.

O. F. Bond, "The Organization and Use of a Departmental Reading Collection in the Modern Languages," *Modern Language Journal,* IX (May, 1925), 483–8.

The Classical Investigation Conducted by the Advisory Committee of the American Classical League, Part I. Princeton, New Jersey: Princeton University Press, 1924. Pp. 306.

[98] Isabel Bevier, *Home Economics in Education.* Philadelphia: J. B. Lippincott Co., 1924. Pp. 226.

Annie R. Dyer, *The Administration of Home Economics in City Schools:* A Study of Present and Desired Practices in the Organization of the Home Economics Program. Teachers College Contributions to Education, No. 318. New York: Teachers College, Columbia University, 1928. Pp. 144.

Mabel B. Trilling and Others, *Home Economics in American Schools.* Supplementary Educational Monographs, Vol. II, No. 6. Chicago: Department of Education, University of Chicago, 1920. Pp. xii + 122.

[99] A. F. Payne, *Methods of Teaching Industrial Subjects.* New York: McGraw-Hill Book Co., 1926. Pp. xx + 294.

David Snedden and Others, *Reconstruction of Industrial Arts Courses.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. vi + 144.

[100] G. T. Buswell and C. H. Judd, *Summary of Educational Investigations Relating to Arithmetic.* Supplementary Educational Monographs, No. 27. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 212. See the *Elementary School Journal* for annual supplements.

Elvin A. Hoy, "Junior-College Mathematics in California," *School Review,* XXXVI (May, 1928), 370–3.

education,[101] physical and health education,[102] science,[103]

Raleigh Schorling, *A Tentative List of Objectives in the Teaching of Junior High School Mathematics, with Investigations for the Determining of Their Validity.* Ann Arbor, Michigan: George Wahr, 1925. Pp. 138.

J. W. Young, *The Reorganization of Mathematics in Secondary Education*, Part I. Boston: Houghton Mifflin Co., 1927. Pp. xvi + 182.

[101] W. W. Charters, *The Teaching of Ideals.* New York: Macmillan Co., 1927. Pp. xiv + 372.

C. F. Cheverton, "Criteria for the Evaluation of Curriculum Material for the Religious Education of the Adult Mind." Unpublished Doctor's thesis, Boston University, 1918.

Hugh Hartshorne and Mark A. May, *Studies in Deceit.* Studies in the Nature of Character, I. New York: Macmillan Co., 1928. Pp. xxii + 414 + viii + 306.

R. M. Hogan, "The Technique of Activity and Trait Analysis Applied to Y. M. C. A. Executive Secretaries as a Basis for Curricular Materials." Unpublished Doctor's thesis, University of Chicago, 1927.

W. E. Uphaus and M. T. Hipps, *Undergraduate Courses in Religion at Denominational and Independent Colleges and Universities of America.* National Council on Religion in Higher Education Bulletin, No. 6. Ithaca, New York: Cayuga Press, 1926. Pp. 94.

Goodwin B. Watson, *Experimentation and Measurement in Religious Education.* New York: Association Press, 1927. Pp. xii + 296.

Undergraduate Instruction in Religious Education in the United States. Chicago: Religious Education Association, 1928.

[102] Georgia B. Johnson, *Organization of the Required Physical Education for Women in State Universities.* Teachers College Contributions to Education, No. 253. New York: Teachers College, Columbia University, 1928. Pp. viii + 172.

Marion O. Lerrigo, *Health Problem Sources.* Teachers College Contributions to Education, No. 244. New York: Teachers College, Columbia University, 1926. Pp. 152.

Marie M. Ready, *Physical Education in American Colleges and Universities.* Bureau of Education Bulletin No. 14, 1927. Washington: Bureau of Education. Pp. vi + 52.

social studies,[104] pharmacy,[105] and the secretarial curriculum.[106]

Ruth Strang, *Subject Matter in Health Education.* Teachers College Contributions to Education, No. 222. New York: Teachers College, Columbia University, 1926. Pp. 108.

J. F. Williams, *The Principles of Physical Education.* Philadelphia: W. B. Saunders Co., 1927. Pp. xxvi + 482.

C. E. A. Winslow and Pauline B. Williamson, *The Laws of Health and How to Teach Them.* New York: Charles E. Merrill Co., 1925. Pp. xiv + 354.

T. D. Wood and Rosalind F. Cassidy, *The New Physical Education.* New York: Macmillan Co., 1927. Pp. xiv + 458.

T. D. Wood and Marion O. Lerrigo, *Health Behavior.* Bloomington, Illinois: Public School Publishing Co., 1927. Pp. 150.

[103] F. D. Curtis, *A Digest of Investigations in the Teaching of Science in the Elementary and Secondary Schools.* Philadelphia: P. Blakiston's Son and Co., 1926. Pp. x + 342.

G. S. Craig, *Certain Techniques Used in Developing a Course of Study in Science for the Horace Mann Elementary School.* Teachers College Contributions to Education, No. 276. New York: Teachers College, Columbia University, 1927. Pp. viii + 74.

Edward M. Freeman, "Procedures and Results of Efforts to Reorganize Science Instruction in the University of Minnesota," *Peabody Journal of Education,* VI (January, 1929), 204–18.

George E. Nelson, "Biological Definitions in Elementary College Courses," *School Science and Mathematics,* XXVIII (October, 1928), 706–9.

W. A. Broyles, *A Suggested Program for First-Year Graduate Work in Agricultural Education.* Department of Rural Education Research Series, Vol. III, No. 1. State College: Pennsylvania State College, 1926. Pp. 140.

A. W. Nolan, *The Case Method in the Study of Teaching with Special Reference to Vocational Agriculture.* Educational Research Monographs, No. 10. Bloomington, Illinois: Public School Publishing Co., 1927. Pp. xii + 266.

R. J. Slay, *The Development of the Teaching of Agriculture in Mississippi.* Teachers College Contributions to Education, No. 310. New York: Teachers College, Columbia University, 1928. Pp. 192.

Needed Curriculum Research. — It seems appropriate to close this chapter by citing a number of references which discuss problems for investigation in the selection and organization of materials of instruction. Briggs[107] lists twenty-seven questions which he maintains must be answered before the problems in the field of the curriculum can be satisfactorily solved. Salisbury[108] discusses

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C. R. Woodward, *The Curriculum of the College of Agriculture.* Bureau of Education Bulletin No. 40, 1920. Washington: Bureau of Education. Pp. 86.

[104] E. Dawson and Others, *Teaching the Social Studies.* New York: Macmillan Co., 1927. Pp. xvi + 406.

Henry Harap, *Economic Life and the Curriculum.* New York: Macmillan Co., 1927. Pp. xii + 188.

John A. Hockett, *A Determination of the Major Social Problems of American Life.* Teachers College Contributions to Education, No. 281. New York: Teachers College, Columbia University, 1927. Pp. vi + 102.

Baldwin Lee, *Issues in the Social Studies.* Social Science Monographs of the Lincoln School of Teachers College, No. 3. New York: Bureau of Publications, Teachers College, Columbia University, 1928. Pp. viii + 192.

Earle Rugg, *Curriculum Studies in the Social Sciences and Citizenship.* Colorado Teachers College Education Series, No. 3. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. xiv + 214.

William H. Todd, *What Citizens Know about Their Schools.* Teachers College Contributions to Education, No. 279. New York: Teachers College, Columbia University, 1927. Pp. 86.

[105] W. W. Charters and Others, *Basic Material for a Pharmaceutical Curriculum.* New York: McGraw-Hill Book Co., 1927. Pp. 366.

[106] W. W. Charters and I. B. Whitley, *Analysis of Secretarial Duties and Traits.* Baltimore: Williams and Wilkins Co., 1924. Pp. 186.

[107] Thomas H. Briggs, *Curriculum Problems.* New York: Macmillan Co., 1926. Pp. xvi + 138.

[108] Ethel I. Salisbury, "Needed Research in Course of Study Making," *Journal of Educational Method,* IV (June, 1925), 410–6.

a number of interesting problems in the curriculum field and places special emphasis on that of moral growth. Phelps[109] emphasizes needed research which will utilize the various methods of investigation available in curriculum construction: philosophical study, job analysis, committee-conference curriculum-making, quantitative study, and experimental study. Certain of the chapters of the 1928 yearbook of the Department of Superintendence include suggestions relating to problems which should be investigated in the secondary-school subjects.[110] A book by Professor Harap should prove useful to the investigator who wishes to conduct research in the curriculum field, especially in the reorganization of the program of studies in the public-school field.[111] Charters' treatment of the curriculum includes lists of problems for investigation.[112] The curriculum yearbook of the National Society for the Study of Education is suggestive.[113]

Two Important Yearbooks.—A brief statement should be made with respect to two valuable yearbooks which include interesting curriculum discussions. The publication of the National Society of College Teachers of Education deals with the curriculum in liberal-arts

[109] Shelton Phelps, "Curriculum Construction," *Peabody Journal of Education*, V (January, 1928), 223–9.

[110] *The Development of the High-School Curriculum*, Part II. Sixth Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1928.

[111] Henry Harap, *The Technique of Curriculum Making.* New York: Macmillan Co., 1928. Pp. xii + 316.

[112] W. W. Charters, *Curriculum Construction.* New York: Macmillan Co., 1923. Pp. xii + 352.

[113] Harold Rugg and Others, *Curriculum-Making: Past and Present* and *The Foundations of Curriculum-Making.* Twenty-Sixth Yearbook of the National Society for the Study of Education, Parts I and II. Bloomington, Illinois: Public School Publishing Co., 1926. Pp. xiv + 476, xii + 238.

colleges, teacher-training institutions, non-professional graduate schools and departments, and schools of agriculture, engineering, and medicine. Studies dealing with the following curriculum topics are summarized: changing organization, overlapping, value of specific courses, critical studies of given courses, activity analysis, prescription versus election, breadth of training, specialization, unity, graduation, content of special courses and fields, nomenclature, duplication, alumni reactions, current trends, etc.[114] In the yearbook of the Department of Superintendence is a helpful treatment of training in six professional fields and in adult education.[115] The six professional fields are pharmacy, dentistry, medicine, library service, law, and engineering.

Conclusion.—The conclusion reached in the first of these yearbooks is significant. (1) Academic and professional schools are deeply concerned about curriculum problems and are actively engaged in studying them; (2) most of the studies which have been made reveal trends and summarize current practice; and (3) there is genuine need of more fundamental studies which are concerned with the principles of curriculum construction and with the nature of the content best adapted to the varying needs of students.[116]

Supplementary References

Allport, F. H. "The Present Status of Social Psychology," *Journal of Abnormal and Social Psychology*, XXI (January-March, 1927), 372–83.

[114] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapters iv, v. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

[115] *The Articulation of the Units of American Education*, chapters xviii, xxii, xxvii. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

[116] W. S. Gray and Others, *op. cit.*, p. 89.

Aspinwall, W. B. "The Value of Student-Teaching in a Teacher-Training Course, as Judged by Graduates of One, Two, Three and Four Years' Experience," *Educational Administration and Supervision*, VII (May, 1921), 267–73.

Bankes, W. J. "The Training of Teachers for Platoon Schools," *Educational Administration and Supervision*, IX (September, 1923), 371–6.

Blue, H. G. "An Analysis of Five Texts in Educational Psychology," *Phi Delta Kappan*, XI (August, 1928), 41–5.
An analysis of the topics treated in texts by Gates, Starch, Bolton, Thorndike, and Cameron.

Boardman, L. W., and Smith, E. B. *Standards for Determining the Collegiate Rank of Subjects.* Colorado State Teachers College Research Bulletin, No. 8. Greeley, Colorado, 1924. Pp. 34.

Bradfield, Stella. "Observation, Participation, and Practice Teaching for a Liberal Arts College," *Educational Administration and Supervision*, VIII (February, 1922), 105–12.

Brown, H. A. "Professional Courses in the State Normal School," *Elementary School Journal*, XX (January, 1920), 359–68.

Charters, W. W. "Articulating the School with Life," *Educational Research Bulletin*, VIII (April 3, 1929), 150–1. Columbus, Ohio: Bureau of Educational Research, Ohio State University.
Emphasizes the utilization of the technique of job analysis in determining the cultural core of American civilization.

Charters, W. W. "The Basis and Principles of Curriculum Construction for State Teachers Colleges," *National Education Association Addresses and Proceedings*, 1926, pp. 903–6.

Clerk, F. E. "Some American Colleges and the Courses They Offer," *World Review*, I (January 25, 1926), 247–9.

Coale, W. B. *The Professional Needs of Teachers of English.* Teachers College Contributions to Education, No. 334. New York: Teachers College, Columbia University, 1928. Pp. 86.

Cocking, W. D. *Administrative Procedures in Curriculum Making for Public Schools.* Teachers College Contributions to Education, No. 329. New York: Teachers College, Columbia University, 1928. Pp. vi + 120.

Coon, B. "Training Teachers for Related Subjects," *Vocational Education Magazine*, II (April, 1924), 652–5.

Cox, P. W. L., Peters, C. C., and Snedden, David. *Objectives of Education.* Second Yearbook of the National Society for the

Study of Educational Sociology. New York: Bureau of Publications, Teachers College, Columbia University, 1929. Pp. viii + 174.

Cross, E. A. "Curriculum Making for Teachers Colleges," *Educational Administration and Supervision*, XII (February, 1926), 86–94.

Cutright, Prudence. "Teacher Participation in Curriculum Construction," *Educational Method*, VIII (April, 1929), 404–7.

Davis, Helen. "Some Practical Problems of the Training Teacher in the Elementary Training School," *Educational Administration and Supervision*, XIII (May, 1927), 332–8.

Dickson, J. E. "Current Practices and Tendencies in the Elementary Curriculum of the Training Schools of Teachers Colleges and Normal Schools," *Educational Administration and Supervision*, XIII (April, 1927), 241–54.

Douglass, H. K. "Assignment of Supervised Student-Teachers," *Educational Administration and Supervision*, VIII (September, 1922), 321–30.

Eckelberry, R. H. "The Need for Unity in Teacher-Training Courses," *Education*, XLIX (February, 1929), 321–30.
Emphasizes desirability of relating academic subjects to practical affairs of life including teaching, avoidance of overemphasis on the practical on the part of teachers of the professional subjects, and increased emphasis on history of education and philosophy of education.

Evenden, E. S. "Criteria for the Construction of Teachers College Curricula," *National Education Association Addresses and Proceedings*, 1926, pp. 285–93.

Foster, W. T. *Administration of the College Curriculum*, pp. 341–50. Boston: Houghton Mifflin Co., 1911.
A bibliography which covers the period, 1754–1910.

Frazier, G. W. "The Present Status of the Teachers College Curriculum and What to Do About It," *American Association of Teachers Colleges Yearbook*, 1925, pp. 25–33.

Freeman, F. N. "Courses in Educational Psychology in Colleges, Universities, and Normal Schools," *Yearbook Number VIII of the National Society of College Teachers of Education*, pp. 43–61. Chicago: University of Chicago Press, 1919.

Gaumnitz, W. H. "Provisions Made by Colleges and Normal Schools to Give a Special Type of Training to Teachers of Junior High Schools," *Educational Administration and Supervision*, XI (November, 1925), 556–71.

Grant, E. "Motivating the Course in Tests and Measurements for the Teacher-in-Training," *Journal of Educational Method*, IV (January, 1925), 190–4.
Emphasizes the need for cooperation between training school and measurements classes, and the need for practice in a real situation for the normal-school students.

Hall-Quest, A. L. "The Training of Teachers to Supervise Study," *Educational Administration and Supervision*, VII (March, 1921), 160–5.
Description of the plan of cooperative teacher training in use at the University of Cincinnati.

Hart, J. K. "Contents of Courses on Education," *School and Society*, XIII (February 19, 1921), 234–5.

Hertzberg, O. E. "The Opinion of a Teacher-Training Institution Concerning the Relative Value of Subject-Matter in Educational Psychology to the Elementary School Teacher," *Journal of Educational Psychology*, XIX (May, 1928), 329–42.
Data secured from sixty-seven faculty members and eighty-eight students.

Horn, J. L. "The Curriculum in the College and University Department of Education," *Educational Administration and Supervision*, XIII (March, 1927), 165–9.

Horn, J. L. "Proposed Scheme for Preparing High School Teachers in a Liberal Arts College," *Educational Administration and Supervision*, VIII (January, 1922), 36–9.

Horne, H. H. "The Basic Content of a Course in the Philosophy of Education," *School and Society*, XXVIII (August 4, 1928), 131–4.
A suggested outline of a course, including a discussion of the items involved.

Horne, H. H. "College Students on the Study of Philosophy," *School and Society*, XVI (December 23, 1922), 725–8.
Classifies and analyzes answers of students on what value the study of philosophy has had for them.

Howerth, I. W. "Sociology in a Teachers College Curriculum," *Education*, XLVIII (May, 1928), 561–7.
Discusses the sociological training deemed desirable for a teacher.

Hughes, C. L. "Problems Confronting the Student in Anticipation of Teaching," *Educational Administration and Supervision*, X (November, 1924), 519–23.

Husband, R. W. "Psychology in Junior Colleges," *Psychological Bulletin*, XXVI (January, 1929), 39–40.
Based on 131 catalogues from thirty-one states.

James, B. B. "Experimental Education in Normal Schools," *School and Society*, XII (October 30, 1920), 385–90.

Jarrett, R. J. "Status of Courses in Psychology in State Teachers Colleges in the United States." Unpublished Doctor's thesis, George Peabody College for Teachers, 1927.

Kelly, F. J. "A Study of the Values Assigned to Courses in Education and Related Fields by 249 High-School Teachers and School Administrators in Kansas," *Yearbook Number IX of the National Society of College Teachers of Education*. Chicago: University of Chicago Press, 1920.

Kennedy, C. H. "Relative Value to the State of Graduate and Undergraduate Studies in a State University," *School and Society*, XXV (April 30, 1927), 497–502.

Kirkley, J. A. "Virtues and Defects of Normal School Training as Seen by Graduates of Two, Five, and Ten Years' Service," *Educational Administration and Supervision*, VII (February, 1921), 103–10.

Koos, L. V. "The Junior-College Curriculum," *School Review*, XXXV (November, 1927), 657–72.

Koos, L. V. "Overlapping in High School and College," *Journal of Educational Research*, XI (May, 1925), 322–36.

Lane, J. A. "The Fort Wayne Plan of Student Teaching, Observation and Reports," *Educational Administration and Supervision*, VIII (January, February, 1922), 42–59; 99–104.

Leonard, R. J. "Dangers Incident to the Continual Lengthening of Professional Curricula," *School and Society*, XXV (June 25, 1927), 759–68.

Linton, Clarence, and O'Rear, F. B. "What Students in Certain Liberal Arts Colleges Take for the Bachelor's Degree," *Teachers College Record*, XXX (January, 1929), 343–7.
Data concerning 640 graduates of thirteen liberal-arts colleges.

Little, C. C. "Report of the Commission on the College Curriculum," *Association of American Colleges Bulletin*, XV (March, 1929), 151–2.

Lowman, H. L. "The Work of the Curriculum Constructors," *Education*, XLIX (April, 1929), 473–8.
Describes the conference, experimental, job-analysis, and philosophical methods of curriculum construction.

Lull, H. G. "Teacher-Training in Curriculum Building," *Educational Administration and Supervision*, XI (October, 1925), 452–64.

McGeoch, J. A. *The Present Status of Psychology*. Colorado College Publications, General Series, No. 103. Colorado Springs, Colorado, 1919. Pp. 100.

Mack, H. W. "Comparative Content of Educational Philosophy Textbooks," *Education*, XLIX (December, 1928), 236–44.
An analysis of books of Kilpatrick, Dewey, Chapman and Counts, Horne, Bode, Henderson, and Howerth; indicates the texts in philosophy used in forty institutions and the philosophical point of view from which the subject is approached in the various schools.

Madsen, I. N. "The Normal-School Curriculum through the Eyes of Its Graduates," *Elementary School Journal*, XXIX (November, 1928), 181–8.
Based on a questionnaire returned by 184 graduates of the Lewiston State Normal School, Idaho.

Mead, A. R. "Suggestions for the Training of Teachers in the Use of Educational Measurements," *Educational Administration and Supervision*, XII (January, 1926), 23–43.

Meader, J. L. "The Training School Curriculum," *Educational Administration and Supervision*, XIV (May, 1928), 299–307.
Discusses the revision of teacher-training curriculums in Connecticut.

Monroe, W. S. "Undergraduate Curriculum in Education," *School and Society*, XXIV (August 7, 1926), 177–81.

Mursell, J. L. "Vitality in College Courses for Teachers," *Educational Review*, LXXII (June, 1926), 33–6.

Myers, A. F. "The Course in Observation and Participation in Its Relationship to Courses in Principles of Teaching, Methods, School Management, etc.," *Educational Administration and Supervision*, XIV (September, 1928), 404–12.
Reports the reactions of 455 students as secured by the questionnaire method at Ohio University.

Nussbaum, F. L. "Unity in College Education," *School and Society*, XXIII (June 26, 1926), 803–7.
A forceful argument for a scheme of education which is a "specialized form designed to satisfy students of particular tastes and ambitions."

OBrien, F. P. "Employing Student Criticism in Revising Courses in Education," *Educational Administration and Supervision*, XI (September, 1925), 394–8.

Ogden, R. M. "Curriculum for the College of Arts," *Educational Review*, LXV (April, 1923), 208–14.

Payne, E. G. "Sociological Basis of the Normal School Curriculum," *Journal of Educational Sociology*, I (September, 1927), 1–10.
Urges training of teachers in terms of the social needs and aspirations of the communities they serve.

Pintner, R. "Training Pupils in Group Intelligence Testing," *Journal of Educational Research*, IX (April, 1924), 271–80.
Describes a procedure by means of which students actually administer tests under school conditions and report results; reproduces a student's report on a case study.

Pound, L. "Considerations to Be Taken into Account in the Stimulation of Graduate Work for Women," *National Education Association Addresses and Proceedings*, 1922, pp. 769–70.

Pratt, Helen G. "The Technique of Teaching Educational Measurements in Normal Schools," *Educational Administration and Supervision*, XIII (March, 1927), 200–4.
Emphasizes the use of test materials in the training school under laboratory conditions.

Proctor, W. M. "Curriculum Revision and College Requirements," *School Review*, XXXV (June, 1927), 411–6.

Proctor, W. M. "Training of Teachers for the Junior High School," *Educational Administration and Supervision*, XI (January, 1925), 13–7.

Rainey, H. P. "A Revised Liberal Arts Curriculum," *School and Society*, XXIX (February 23, 1929), 258–60.
Emphasizes economic, social, and spiritual values, and adjustment to the natural world.

Reavis, W. C. "The Place of Educational Sociology in the Training of the Secondary-School Principal," *Journal of Educational Sociology*, I (February, 1928), 322–9.
Discusses problems of pupil population, sociology of organizations, collective behavior, sociological basis of the curriculum, and social maladjustment.

Reeves, F. W., and Russell, J. D. *College Organization and Administration*, chapter v. Indianapolis, Indiana: Board of Education Disciples of Christ, 1929.
Analyzes the program of studies.

Reinhardt, J. M. "Trends in the Teaching of 'Social Problems' in Colleges and Universities in the United States," *Social Forces*, VII (March, 1929), 379–84.
A questionnaire study of sixty colleges and universities.

Retan, G. A. "Sociology Applied in Curriculum Making," *Journal of Educational Sociology*, II (March, 1929), 424–9.

Ricciardi, Nicholas. "The Need for Terminal Courses in the Junior College," *California Quarterly of Secondary Education*, III (January, 1928), 145–54.
Includes a list of guiding principles in building terminal courses.

Rich, S. G. "Wanted: A Better History of Education," *Educational Administration and Supervision*, XI (April, 1925), 238–44.

Robertson, D. A. "Foreign Study for Undergraduates," *Educational Record*, VI (April, 1925), 84–90.

Ruediger, W. C. "The Academic Major in Schools of Education Compared with the Major in Liberal Arts Colleges," *Yearbook Number XV of the National Society of College Teachers of Education*, pp. 50–5. Chicago: University of Chicago Press, 1926.

Salmon, L. M. "Does the College Curriculum Promote Scholarship?" *National Education Association Addresses and Proceedings*, 1922, pp. 737–45.

Shafer, G. H. "Subject Matter in the Teacher's College Curriculum," *National Education Association Addresses and Proceedings*, 1922, pp. 1081–4.

Shoninger, Yetta S. "The Function and Responsibilities of the Critic Teacher," *Educational Administration and Supervision*, VI (December, 1920), 481–90.
The main topics discussed are: training-school functions, the critic teacher's work, and crucial topics in a course for critic teachers.

Sprague, H. A. "The Case-Problems of Student-Teachers," *Educational Administration and Supervision*, XIV (May, 1928), 314–24.
Discusses the use of case problems, distribution of problems as to type, and the distribution of problems in the different school subjects.

Sprague, H. W. "Student-Teachers' Problems and the Curriculum," *Educational Administration and Supervision*, XII (April, 1926), 274–7.
Discusses a classified list of 980 teaching problems secured from student teachers, supervisors, and training teachers.

Stowe, A. M. "Junior College Aims and Curriculums," *School Review*, XXXIV (September, 1926), 506–9.

Wade, N. A. "The Frostburg Plan of Teacher-Training," *Educational Administration and Supervision*, XII (January, 1926), 55–7.

Waples, D. "Pittsburg Course in Unit Planning for Prospective High-School Teachers," *Educational Administration and Supervision*, XI (May, 1925), 340–3.

Waples, D. "Teachers' Difficulties as a Basis for Supervision," *Educational Method*, VIII (April, 1929), 399–403.

Welborn, E. L. "Cooperation with Local Schools in Student Teaching," *Educational Administration and Supervision*, VI (November, 1920), 445–70.
Deals with some of the problems involved in the organization and administration of student teaching in a group of normal schools.

Wheat, H. G. "The Curriculum in Education for a Two-Year Normal Course," *Educational Administration and Supervision*, XIV (December, 1928), 643–56.
Reports the recommendations of a committee appointed to revise the normal-school curriculum in West Virginia.

Wilkins, E. H. "The College Curriculum," *Higher Education in America*, Part II, chapter ii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Wills, E. V. "The Need for a Social Psychology of Education," *Education*, XLVII (January, 1927), 257–71.

Wilner, C. F. "Organization of a Normal School Course in Educational Measurements," *Educational Administration and Supervision*, IX (September, 1923), 367–70.
Outlines several courses in measurements, with a scope of treatment possible only in a four-year school.

Woody, C. "Number of Subjects Taught by Graduates of the University of Michigan Who Began Teaching in the 1922–23 School Year, and the Amount of Academic Preparation in the Subjects Taught," *Educational Administration and Supervision*, X (September, 1924), 368–84.

Worcester, D. A. "Teachers' Problems and Courses in Educational Psychology," *Educational Administration and Supervision*, XI (November, 1925), 550–5.

Worcester, D. A. "Twice-Told Tales or Tautologous Teaching in Higher Education," *Educational Administration and Supervision*, XII (February, 1926), 73–8.

Yoakam, G. A. "University Training for the Elementary School Teacher," *University of Pittsburgh School of Education Journal*. III (March–April, 1928), 71–3, 76–7.

Suggests a program of study four years in length and lists desirable courses to be pursued.

"Educational Courses for Industrial Employees," *School and Society*, XXV (February 5, 1927), 158–9.

"Reorganization of the Curriculum of Columbia College," *School Review*, XXXVI (December, 1928), 726–7.

A quotation from a bulletin which describes the reconstruction of the undergraduate liberal-arts curriculum at Columbia University.

Chapter V

PSYCHOLOGY OF LEARNING: TYPES AND ECONOMICAL BASES OF LEARNING

After consideration of the aims of higher education and of the selection and organization of the subject matter intended to bring about attainment of the objectives in question, it follows logically that the psychology of learning and methods of instruction should next receive attention. The psychology of learning will be discussed in this chapter, while more detailed discussion of general methods of teaching, study problems, and classroom devices is reserved for the next chapter. Special method in the various divisions of subject matter will not be discussed, although reasonably full bibliographies in this field will be found in another section (the Appendix) of this book.

General Treatments of the Psychology of Learning.—In view of the large number of excellent discussions of educational psychology and the psychology of learning which are available, it seems unnecessary to summarize at any length the principles and problems in this field. It seems sufficient to refer the reader to a few of the most recent books which deal at least in part with the general principles involved in the psychology of learning.[1]

[1] E. H. Cameron, *Educational Psychology.* New York: Century Co., 1927. Pp. xiv + 468.

Robert S. Ellis, *The Psychology of Individual Differences.* New York: D. Appleton and Co., 1928. Pp. 534.

A. I. Gates, *Elementary Psychology.* New York: Macmillan Co., 1925. Pp. xiv + 594.

Applications of the Psychology of Learning to the Classroom and School.—A number of publications which deal more specifically with the principles of learning and teaching in the classroom than the previously cited general discussions of the psychology of learning should be mentioned. It will be recognized that certain of these books were written with the elementary or secondary school in mind. However, many of the principles treated are equally applicable at the level of higher education. It should be reiterated that while certain of the titles suggest that problems of general method, principles of work and study, and the hygiene of instruction are discussed, more detailed consideration of these problems is reserved for later chapters. The fact that some of the publications listed at this time are cited more specifically or reviewed in subsequent analyses of general methods of instruction and study procedures serves to indicate the close connection between such problems and the psychology of learning in general.[2]

H. L. Hollingworth, *Psychology: Its Facts and Principles.* New York: D. Appleton and Co., 1928. Pp. 540.

Arthur M. Jordan, *Educational Psychology.* New York: Henry Holt and Co., 1928. Pp. 474.

Edward S. Robinson, *Practical Psychology.* New York: Macmillan Co., 1927. Pp. 480.

Peter Sandiford, *Educational Psychology: An Objective Study.* New York: Longmans, Green and Co., 1928. Pp. 406.

Charles E. Skinner, Ira M. Gast, and Harley C. Skinner, *Readings in Educational Psychology.* New York: D. Appleton and Co., 1926. Pp. xxviii + 834.

G. B. Watson and R. B. Spence, *Sketches in and out of School:* A Case Study of Syllabus for Courses in Educational Psychology. New York: Published by the authors, 1927. Pp. 286.

[2] L. A. Averill, *The Hygiene of Instruction.* Boston: Houghton Mifflin Co., 1928. Pp. 386.

P. W. L. Cox, *Creative School Control.* Philadelphia: J. B. Lippincott Co., 1927. Pp. 320.

Psychology Applied to the School Subjects and Special Fields.—Numerous discussions of the psychology of learning as applied to the various school subjects and special fields of activity are available. Within the limited space at our disposal it is possible only to call attention to publications which should prove helpful to the reader who wishes detailed information concerning the learning processes in a given field or fields: elementary-school subjects,[3] secondary-school subjects,[4] mathematics,[5] ath-

Claude C. Crawford, *The Technique of Study.* Boston: Houghton Mifflin Co., 1928. Pp. x + 354.

A. S. Edwards, *The Fundamental Principles of Learning and Study.* Baltimore: Warwick and York, 1925 [revised]. Pp. 256.

Norman Fenton, *Self-Direction and Adjustment.* Yonkers-on-Hudson, New York: World Book Co., 1926. Pp. vi + 122.

L. A. Headley, *How to Study in College.* New York: Henry Holt and Co., 1926. Pp. x + 418.

W. H. Kilpatrick, *Foundations of Method:* Informal Talks on Teaching. New York: Macmillan Co., 1925. Pp. xii + 384.

A. W. Kornhauser, *How to Study.* Chicago: University of Chicago Press, 1924. Pp. viii + 44.

Daniel W. La Rue, *Mental Hygiene.* New York: Macmillan Co., 1927. Pp. 444.

R. L. Lyman, *The Mind at Work.* Chicago: Scott, Foresman and Co., 1924. Pp. 350.

H. L. Miller, *Creative Learning and Teaching.* New York: Charles Scribner's Sons, 1927. Pp. 262.

H. L. Miller and R. T. Hargreaves, *The Self-Directed School.* New York: Charles Scribner's Sons, 1925. Pp. vi + 412.

Walter S. Monroe, *Directing Learning in the High School.* Garden City, New York: Doubleday, Page and Co., 1927. Pp. x + 578.

S. C. Parker, *General Methods of Teaching in Elementary Schools.* Boston: Ginn and Co., 1922. Pp. xx + 336.

Douglas Waples, *Problems in Classroom Method.* New York: Macmillan Co., 1927. Pp. xxii + 610.

Guy M. Whipple, *How to Study Effectively.* Bloomington, Illinois: Public School Publishing Co., 1927 [revised]. Pp. 96.

[3] Frank N. Freeman, *The Psychology of the Common Branches.* Boston: Houghton Mifflin Co., 1916. Pp. xii + 276.

letics and play,[6] music,[7] typewriting and skill,[8] handwriting,[9] reading and spelling,[10] character education and

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S. C. Garrison and K. C. Garrison, *Psychology of the Elementary School.* Richmond, Virginia: Johnson Publishing Co., 1929.

S. C. Parker, *Types of Elementary Teaching and Learning.* Boston: Ginn and Co., 1923. Pp. xvi + 586.

H. B. Reed, *Psychology of Elementary School Subjects.* Boston: Ginn and Co., 1927. Pp. x + 482.

Daniel Starch, *Educational Psychology.* New York: Macmillan Co., 1927 [revised]. Pp. x + 568.

[4] C. H. Judd, *Psychology of Secondary Education.* Boston: Ginn and Co., 1927. Pp. 546.

H. C. Morrison, *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press, 1926. Pp. viii + 662.

S. C. Parker, *Methods of Teaching in High Schools.* Boston: Ginn and Co., 1920. Pp. xxviii + 530.

H. H. Remmers, *Psychology of the High School Subject.* New York: Longmans, Green and Co., (in preparation).

[5] E. L. Thorndike, *The Psychology of Arithmetic.* New York: Macmillan Co., 1922. Pp. 314.

E. L. Thorndike and Others, *The Psychology of Algebra.* New York: Macmillan Co., 1923. Pp. 484.

[6] Coleman R. Griffith, *Psychology and Athletics.* New York: Charles Scribner's Sons, 1928. Pp. 282.

H. C. Lehman and P. A. Witty, *The Psychology of Play Activities.* New York: A. S. Barnes and Co., 1927. Pp. 242.

[7] C. E. Seashore, *The Psychology of Musical Talent.* New York: Silver, Burdett and Co., 1919. Pp. 288.

Walter S. Swisher, *Psychology for the Music Teacher.* Boston: Oliver Ditson Co., 1927. Pp. 78.

[8] W. F. Book, *Learning to Typewrite, with a Discussion of the Psychology and Pedagogy of Skill.* New York: Gregg Publishing Co., 1925. Pp. 464.

W. F. Book, *The Psychology of Skill with Special Reference to Its Acquisition in Typewriting.* New York: Gregg Publishing Co., 1925. Pp. 258.

[9] June E. Downey, *Graphology and the Psychology of Handwriting.* Educational Psychology Monograph, No. 24. Baltimore: Warwick and York, 1919. Pp. 142.

personality,[11] social institutions and language,[12] and adolescence.[13]

Types of Learning and Teaching.—In discussing the teaching unit in chapter iv a brief statement was made concerning the five types of learning recognized by Morrison. It should not be necessary to repeat this description of the several types of learning, although it may be helpful to name them together with illustrative

[10] Fowler D. Brooks, *The Applied Psychology of Reading, with Exercises and Directions for Improving Silent and Oral Reading.* New York: D. Appleton and Co., 1926. Pp. xviii + 278.

Arthur I. Gates, *The Psychology of Reading and Spelling.* Teachers College Contributions to Education, No. 129. New York: Teachers College, Columbia University, 1922. Pp. viii + 108.

Edmund B. Huey, *The Psychology and Pedagogy of Reading.* New York: Macmillan Co., 1908. Pp. xvi + 470.

J. A. O'Brien, *Reading: Its Psychology and Pedagogy.* New York: Century Co., 1926. Pp. xxviii + 308.

[11] Percival M. Symonds, *The Nature of Conduct.* New York: Macmillan Co., 1928. Pp. xii + 346.

P. F. Valetine, *The Psychology of Personality.* New York: D. Appleton and Co., 1927. Pp. 394.

[12] C. H. Judd, *The Pschology of Social Institution.* New York: Macmillan Co., 1926 Pp. x + 346.

W. B. Pillsbury and C. L. Meader, *The Psychology of Language.* New York: D. Appleton and Co., 1928. Pp. viii + 306.

[13] Leta S. Hollingworth, *The Psychology of the Adolescent.* New York: D. Appleton and Co., 1928. Pp. 260.

L. A. Pechstein and A. Laura McGregor, *Psychology of the Junior High School Pupil.* Boston: Houghton Mifflin Co., 1924. Pp. xxii + 280.

Ralph W. Pringle, *Adolescence and High-School Problems.* Boston: D. C. Heath and Co., 1922. Pp. xiv + 386.

Ralph W. Pringle, *Methods with Adolescents.* Boston: D. C. Heath and Co., 1927. Pp. xviii + 438.

E. G. Swift, *Psychology of Youth.* New York: Charles Scribner's Sons, 1927. Pp. 342.

Frederick Tracy, *The Psychology of Adolescence.* New York: Macmillan Co., 1926. Pp. xii + 246.

school subjects. Morrison's classification is as follows: (1) science type including grammar, principles of ethics and logic, science (physical, biological, and social), home management and home economics, theory of music and other fine arts, and transportation and commercial law; (2) appreciation type including fine arts, religion, moral behavior, and literature; (3) practical-arts type including shop courses in the mechanical arts, cooking, sewing, dressmaking, drawing, painting, and the plastic arts; (4) language-arts type including learning to read and write the vernacular, English composition, foreign languages, stenography, and musical expression; and (5) the pure-practice type including the training of the vocal organs in foreign language and music, finger exercises in musical instrumentation, spelling, the tables in arithmetic, and memorization of formulas.[14]

Parker's classification of the types of learning is as follows: (1) acquiring motor skill as in gymnastics, dancing, manual training, and laboratory manipulation; (2) associating symbols and meanings as in mastering the vocabulary of a foreign language; (3) reflective thinking as in mathematics, natural science, and grammatical work; (4) acquiring habits of enjoyment as in music, literature, other arts, and sports and games; and (5) training in expression as in oral and written composition, dramatization, drawing, painting, modeling, etc.[15] A comparison of the classifications formulated by Morrison and Parker indicates a great deal of similarity, although the phraseology employed is somewhat different.

Freeman has set forth an interesting statement of the elementary types of learning: sensori-motor (handwrit-

[14] H. C. Morrison, *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press, 1926. Pp. viii + 662.

[15] S. C. Parker, *Methods of Teaching in High Schools*, pp. 96–7. Boston: Ginn and Co., 1920.

ing), perceptual (drawing, reading, and music), fixing of associations (spelling), extension of experience through imagination (history and geography), abstract thought (mathematics), and generalization upon experience (natural science).[16] Parker's classification of the elementary types of learning include: (1) the four elementary skills of handwriting, spelling, beginning reading, and arithmetical calculation; (2) the four thoughtful processes of understanding social life, problem solving, skillful silent reading, and communicating ideas; and (3) recreational and moral behavior including habits of harmless enjoyment and civic-moral ideals and efficiency.[17] It will be recognized that these treatments of the types of learning and teaching at the elementary and secondary levels have pertinent applications at the college levels, particularly in the case of Morrison's classification.

Adult Learning.—The college teacher is rightfully interested in the mature student's capacities and possibilities for learning as compared with youth. Thorndike reports results secured from a series of studies of the ability of adults to master a variety of subjects including such high-school subjects as modern languages, secretarial subjects, and special subjects involving special aptitudes and skills. He reports that the adult learns virtually as well as the youth and, in addition, has certain advantages due to experience, understanding of the value of his study, and immediate need for facts, skills, and new habits.[18] A number of important discussions of adult learning should be mentioned, although in some

[16] Frank N. Freeman, *The Psychology of the Common Branches.* Boston: Houghton Mifflin Co., 1916. Pp. xii + 276.

[17] S. C. Parker, *Types of Elementary Teaching and Learning*, p. 7. Boston: Ginn and Co., 1923.

[18] E. L. Thorndike and Others, *Adult Learning.* New York: Macmillan Co., 1928. Pp. 336.

instances they are not concerned wholly or even primarily with the psychology of learning.[19]

Principles of Economy in Learning and Bases of Learning.—Teachers at all levels, and particularly in the college and university, have been too much interested in the accumulation of a selected body of information on the part of the student and have neglected the development of effective habits of work and study. In reality, the inculcation of desirable methods of work is more important than the memorization of the detailed information of a given course, since the former will carry over to the activities of after-school life, whereas much of the

[19] O. D. Evans, *Educational Opportunities for Young Workers.* New York: Macmillan Co., 1926. Pp. 380.

Dorothy Canfield Fisher, *Why Stop Learning?* New York: Harcourt, Brace and Co., 1927. Pp. xii + 302.

A. L. Hall-Quest, *The University Afield.* New York: Carnegie Foundation for the Advancement of Teaching, 1926. Pp. 292.

J. S. Noffsinger, *Correspondence Schools, Lyceums, Chautauquas.* New York: Macmillan Co., 1926. Pp. 146.

Nathaniel Peffer, *New Schools for Older Students.* New York: Macmillan Co., 1926. Pp. 250.

J. K. Hart, *Adult Education.* New York: Thomas Y. Crowell Co., 1927. Pp. 356.

H. L. Hollingworth, *Mental Growth and Decline.* New York: D. Appleton and Co., 1927. Pp. 396.

E. C. Lindeman, *The Meaning of Adult Education.* New York: New Republic, 1926. Pp. 222.

E. C. Lindeman, "The Meaning of Adult Learning," *Progressive Education,* VI (January–March, 1929), 35–9.

E. D. Martin, *The Meaning of a Liberal Education.* New York: W. W. Norton and Co., 1926. Pp. 320.

The Articulation of the Units of American Education, chapter xxvii. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

Preschool and Parental Education. Twenty-Eighth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1929. Pp. xii + 832.

latter is forgotten. However, it is a hopeful sign that much interest is being shown at present in the development of better habits of work and study; the supervised or directed study movement is a case in point. Even in the college field it is coming to be recognized that students waste a great deal of time and form wrong habits of work because of inadequate knowledge of proper methods of procedure. That an attempt is being made to correct these shortcomings is evidenced by the number of publications appearing in this field.

Professor Book[20] aims to assemble, systematize, and interpret the facts of the psychology of learning for the benefit of students in orientation classes and special how-to-study courses, teachers in charge of courses in supervised study, department heads in business and industry, and individuals interested in increasing their own personal efficiency. The volume is divided into five parts which include twenty-three chapters. Part I shows the need for greater personal efficiency and makes an analysis of the process of learning to work. Part II is a treatment of the physiological and psychological factors involved in work and study: conservation of energy, sleep, incentives, native endowment, ideals, attention, and will. Part III is a discussion of aids that promote effective work: habit formation, planning one's work, job-analysis, making and using a working schedule, making external conditions favorable, and developing interest in one's attainment. Part IV is an application of the psychology of learning to certain specific tasks: the investigation of a given topic, memorization, reasoning, and giving full attention to continuous work. Part V points out some of the dangers of pseudo-efficiency in study and work. The author has presented his

[20] William F. Book, *Learning How to Study and Work Effectively.* Boston: Ginn and Co., 1926. Pp. xviii + 476.

material in a manner that is intelligible and interesting. He is well-qualified, by reason of his own investigations, to discuss the psychology of learning and has also drawn upon the experimental evidence in the field. The volume includes practical exercises and experiments which accompany the explanation of the principles and laws discussed. Numerous apt illustrations of the principles and laws are drawn from real life.[21]

Pyle has prepared an excellent treatment of the psychology of learning. One of the most valuable features of his work is a list of 114 principles given at the ends of the chapters together with numerous illustrations of their application. These principles provide such an appropriate overview and summary of the psychology of learning that they are quoted.[22] However, limitations of space make it impossible to cite illustrations of the principles listed.

I. The Nature of Learning

1. Learning is connecting. Motor learning is connecting stimulus with response. In that form of learning in which we acquire knowledge, the connection is between ideas, more properly, of course, between the brain states which underlie the ideas. In motor learning, when the movement involved has not already been mastered, the initial connection is secured by the trial and error method. When the movement has already been mastered, the connection is secured by the ideational method.

2. Learning can probably never insure that a given stimulus will, in spite of all other factors, go over into a certain response. Learning is a matter of degree.

3. Human nature can be changed and man is largely the result of his learning. Our habits, knowledge, and ideals are the outcomes of our learning.

[21] The foregoing comments on Book's work are adapted from the writer's book review in the *School Review*, XXXV (February, 1927), 154–5.

[22] W. H. Pyle, *The Psychology of Learning* [revised and enlarged]. Baltimore: Warwick and York, 1928. Pp. x + 442.

II. The Learning Curve

4. Practice increases efficiency in three ways: (1) by establishment of the bond, (2) by decreased resistance in the established neural route, (3) by adaptation of the muscles to the special movements required.

5. The physiological limit of a simple habit is fixed by the reaction time of the subject; in more complex habits a much greater improvement is often possible from developing more efficient or higher order habits.

6. The practical limits of improvement are set by the individual himself and are ordinarily far below the possible plane of efficiency.

7. Learning plateaus usually appear at certain periods, and indicate that no progress in learning is taking place. When plateaus are due to lack of interest or fatigue, practice should be discontinued unless some methods can be found for reviving interest.

III. Economical Learning: Length and Distribution of Practice Periods

8. Practice after a certain length of time is not profitable.

9. Practice periods of children should be short, and in most cases once or twice a day.

10. In establishing a complicated set of habits, frequently repeated practices at the start are more profitable than they are after habituation has proceeded further.

11. Unperfected motor movements require more brief practice periods and longer intervals between practices than learning in which the actual movements can easily be made. In which case more concentrated practice seems more profitable.

IV. Economical Learning: General Factors

12. Repetitions are not of equal value. Ideas to be bound together must be experienced together in a state of attention.

13. Ideational and sensational disturbances should be guarded against as they distract attention and may, therefore, interfere with learning.

14. Attitude, through its effect upon attention, is an important factor in learning. Good attitude accelerates learning. Bad attitude retards learning.

15. Attitudes may become permanent, developing into life bents or dispositions.

16. Knowledge of the end sought is an incentive to practice.

17. Knowledge of one's score is also an incentive to practice.

18. Knowledge of errors is an incentive to practice.

19. Knowledge of when material is to be reproduced may affect a pupil's study.

20. Progress is easier when the nature of the bond can be definitely and clearly known.

21. Feeling is important in securing practice and in making practice effective through attention.

V. Economical Learning: Special Factors

22. Habit can be established only through repetition. The schoolroom in the early periods of a child's life should be a drill room.

23. Much time has been wasted in first memorizing, and later practicing what has been learned.

24. Practice should not be wholly formal. There should be incidental drill.

25. Mental capacity can be little improved by specific drill, but in fairly simple mental functions and in cases where the character and amount of stimulation have not been sufficient to develop these functions in the child, specific drill may sometimes be given profitably.

26. Objectives should be known and clear. The teacher should know definitely what he is going to do and he should help the child and the community to see it also.

27. Skills should be acquired with reference to the present and future needs of the child. Skills should not be acquired a long time in advance for uncertain future needs.

28. The teacher should help pupils overcome difficulties as they appear.

29. The teacher should help pupils to discover the best methods of study and work.

30. The teacher should see that pupils use the most economic methods of forming habits.

31. The teacher should help pupils to organize and assimilate details in a natural way.

32. The teacher should minimize the formation of interfering tendencies.

33. The teacher should provide special incentives to effort.

34. Teachers should make hygienic and environmental conditions of learning favorable.

35. The teacher should develop in pupils an attitude of permanent interest in their work.

36. The teacher should help pupils to understand the purpose and the nature of habits to be formed.

VI. Ideational Learning

37. What is experienced together in perception comes back together as ideas.

38. Reasoning takes place when we meet a situation new or partially new and no instinctive or habitual response follows. In such a case we have to wait for the associative processes to suggest a solution.

39. Experience must be reorganized in relations which are important, independent of the original order of experience.

40. Ideas, the elements of knowledge, are derived from perceptual experience.

41. The school should help the child to organize his experience of the world with reference to useful meanings.

42. Knowledge should not be acquired in an abstract isolated way apart from the real situations of life.

43. Training in reasoning is rather specific. We cannot reason well in any field unless we have experience in that field.

44. In studying, the best method is usually to read over the assignment as a whole and get the general idea and then pick out the significant facts.

VII. The Retention of Experience

45. To learn is to become different. If the difference is not retained we have not learned.

46. Ability to retain experience improves with age rapidly up to adolescence, and then more slowly up to maturity.

47. The average retention or memory capacity of girls is better than that of boys of the same age because of the more rapid development of girls.

48. Native capacity for retention cannot be improved by practice but ability to retain experience may be improved through better organization of experience—more repetitions, better attention, and more and better associations.

49. Those who learn most quickly as a rule remember the longest; particularly is this true in the case of logical material.

50. If slow learning is due not to poor learning capacity but to caution and care in learning, then slow learning will be coupled with good retention.

51. Memory for objects or pictures of objects serially presented is better than memory for the names of objects either seen or heard.

52. At any one time a teacher should present to his pupils only a few facts. These should be illustrated, elaborated, related, and organized. As length of series is increased beyond one's memory span the learning time is greatly increased.

53. In serial presentation the first and last of the series is best remembered. Logical arrangement should not be sacrificed, but if logical arrangement can be combined with placing the important facts at the beginning and end of a lesson retention will be better.

54. The rate of forgetting depends upon the degree to which the material has been learned. Over-learning makes forgetting slower.

55. Distributing learning makes forgetting slower.

56. The rate of forgetting varies with the kind of performance in habit formation, or kind of material in ideational learning. Meaningless material is forgotten much sooner than meaningful material.

57. The rate of forgetting varies with the method of measuring forgetting.

58. The rate of forgetting varies with individuals.

59. The rate of forgetting varies with the amount learned at one time. If a large amount is learned, forgetting is slow at first; if a small amount, faster at first.

60. Fast learners, with other factors equal, are slow forgetters.

61. Forgetting is rapid at first and becomes slower and slower as time goes on.

62. When learning is carried to a high degree of perfection, by a large number of repetitions, it persists with great tenacity.

63. If ideational learning involves a great number of repetitions, retention is probably as good as in neuromuscular learning.

64. Other things being equal, those who remember best can reason best.

65. Memory, particularly logical memory, has a high positive relation to intelligence.

66. Retention of one type of impression may be very different in degree from retention of another.

67. Those who are good in immediate memory are usually good in delayed memory.

68. The most significant aspect of memory is organization; for on organization logical memory depends.

69. Voluntary recall should not be attempted until material is well learned. Wrong elements will be coupled together in recall if material is not well learned.

70. Cramming is sometimes legitimate. For example (1) in organizing a large amount of material for a particular occasion, and (2) in going over in a concentrated fashion the whole of material which is being learned in distributed periods.

VIII. The Nature of Learning Capacity

71. Learning capacity is a general characteristic; an individual may be spoken of as a good or poor learner in general.

72. Learning is regular and constant. A pupil will not ordinarily learn well one day and slump the next.

73. Some learning requires specific abilities and in this type of learning quickness of learning will depend upon the degree to which the specific abilities are possessed.

74. Learning capacity may be affected by previous experience.

75. General learning capacity depends upon (1) power of concentration, (2) ability to perceive significance.

IX. Measuring Learning Capacity

76. Any test which measures the capacity of a student to establish connections between two processes not before associated is a valid measure of learning capacity.

77. If measures of learning capacity are to be reliable each pupil must have the same task.

78. If measure of learning are to be reliable each pupil should work with all his might during the test.

79. Physical and mental conditions must be favorable if the learning test is to be reliable.

80. Measures of learning capacity should be taken early in the practice period in order that they may be measures of learning capacity and not final efficiency.

81. As a rule the quick learners have the highest final efficiency.

82. There is a high positive correlation between learning capacity and general intelligence.

83. In any group of students there will be large individual differences in learning capacity. The brightest may be as much as four times as good as the poorest.

X. Differences in Learning Capacity

84. Tests have shown overlapping of ability in grades; a great many pupils in the fifth grade for example have no better ability than those in the fourth.

85. The learning capacity of country children as compared with city children is found to be considerably less, particularly in lower school grades.

86. Studies of Negroes, Indians, and Chinese indicate that there are some racial differences in learning capacity.

87. Causes of individual differences are (1) hereditary and (2) environmental.

88. All children will not learn the same amount but all can learn something.

89. The school should always take account of individual differences.

XI. Transference and Interference

90. In habit formation or knowledge getting any previous habit formed or knowledge acquired which contains elements identical or related to the new situation will be helpful.

91. In pursuing one study a person may get attitudes and methods of attack which may be carried over to other studies.

92. Ideals may be gotten in one study which will carry over to another.

93. Successful mastery of a process gives confidence in attacking other problems, particularly similar problems.

94. Attention can be trained and this training can have some degree of generality.

95. The extent to which habits, knowledge, ideals, and attitudes function in a new experience depends, in large measure, on their organization i.e., whether or not they are generalized.

96. There is no evidence that the doctrine of formal discipline—that the mind gains strength through use and that this strength is available for whatever the mind undertakes—has any foundation.

97. If one has two mutually interfering habits to form, the most economical procedure is to form one set, then the other. Two interfering habits can exist side by side, however.

XII. Fatigue and Learning

98. Fatigue of an organ is reduced capacity to function brought on by work, and is due to certain toxic substances produced in the body.

99. Fatigue may be mental or physical but if fatigue is very great, its effects are general. Interest in new work, however, may make energy available for a time, even though there is some fatigue.

100. Mental fatigue of school children is less than generally believed. Decrease in quality of work is usually due to boredom or unhygienic conditions, rather than to fatigue.

101. The teacher should notice individual variations in fatigue.

102. Young children fatigue more easily than older children or adults.

103. In ordinary school work neither children nor adults are capable of best work early in the morning. They gradually come into the full swing of their power, and just before noon are able to do their best work of the day. Just after noon their powers are at lowest ebb for mental work with some increase toward the end of the school day. Motor efficiency of school children increases throughout the day.

104. Fatigue comes much more quickly in non-habituated work than in habituated work.

105. The best cure for fatigue is sleep.

106. The best workers fatigue less easily than do poor workers.

107. If energy is used for one activity it is not available for any other. If it is dissipated in other activities it will not be available for study.

XIII. Inborn Nature in Relation to Learning

108. Children have a tendency to do what they see others doing. Imitation can be used in school work in the process of habit formation.

109. Boys and girls acquire ideals during the period of adolescence primarily from copying their elders and from people and acts read about in literature and history.

110. The tendencies related to rivalry and fighting are very strong in children.

111. The roving and collecting tendencies in children may be utilized by the school.

112. The child learns most successfully when his practice and drill have in them the spirit of play.

113. The child has a native tendency for manipulation. This tendency should be used in education.

114. The emotions are back of most of our activities, and the good teacher is one who inspires the child and trains him to get pleasure out of the higher things.

Supplementary References

Beglinger, Nina J. *Methods in Adult Elementary Education.* New York: Charles Scribner's Sons, 1928 [revised]. Pp. xii + 186.

Curtis, D. D. "A Study of the Learning Process," *Journal of Engineering Education*, XVIII (April, 1928), 790–803.

Douglass, H. R. "A Summary of the Experimental Data on Certain Phases of Memory," *Pedagogical Seminary*, XXXIV (March, 1927), 92–117.

Good, C. V. "The Effect of Extensive and Intensive Reading on the Reproduction of Ideas or Thought Units," *Journal of Educational Psychology*, XVIII (October, 1927), 477–85.

Good, C. V. "The Relation of Extensive and Intensive Reading to Permanency of Retention," *Pedagogical Seminary*, XXXIII (March, 1926), 43–9.

Harrington, M. A. "Development of a Mental Hygiene Program in a College or University," *Journal of Abnormal and Social Psychology*, XXI (October, 1926), 245–9.

Heidbreder, E. F. "Problem Solving in Children and Adults," *Pedagogical Seminary*, XXXV (December, 1928), 522–45.

Laird, D. A. "Case Studies in the Mental Problems of Later Adolescence with Special Reference to the Mental Hygiene of the College Student," *Mental Hygiene*, VII (October, 1923), 715–33.

Laird, D. A. "How the College Student Responds to Different Incentives to Work," *Pedagogical Seminary*, XXX (December, 1923), 366–70.

Laird, D. A. "Relative Performance of College Students as Conditioned by Time of Day and Day of Week," *Journal of Experimental Psychology*, VIII (February, 1925), 50–63.

Mersereau, E. B. "An Index of Consistency for College Students," *School and Society*, XXV (March 19, 1927), 352–3.

Pechstein, L. A. "The Whole versus Part Methods in Learning: Comparison and Summary," *Studies in Education*, 181–6. Yearbook Number XV of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1926.

Reed, H. B. "The Essential Laws of Learning or Association," *Psychological Review*, XXXIV (March, 1927), 107–15.

Stanley, Oliver. *The Way Out.* New York: Oxford University Press, 1923. Pp. 116.

A series of essays on the meaning and purpose of adult education.

Symonds, P. M. "Laws of Learning," *Journal of Educational Psychology*, XVIII (September, 1927), 405–13.

Yountz, P. N. "Experimental Classes in Adult Education," *School and Society*, XXVIII (July 28, 1928), 91–7.
A description of work done at the People's Institute, New York City.

Chapter VI

CONDUCT OF THE CLASS PERIOD, STUDY PROBLEMS, AND PROVISION FOR INDIVIDUAL DIFFERENCES

Introduction.—In this chapter a variety of problems in the field of general method will be considered. It may be said that teaching at any level of instruction involves: (1) determination of the aims of education, (2) selection and organization of subject matter and materials of instruction, (3) use of desirable methods and devices in the presentation of the subject matter selected, and (4) measurement of the results of instruction in order to determine whether the desired aims have been attained. In chapter iii the aims of college teaching are discussed; chapter iv is a treatment of the selection and organization of subject matter, while chapter v introduces the problems of general method in a presentation of types of teaching and of the principles of the psychology of learning. The present chapter carries forward the discussion of teaching methods and devices in a direct treatment of the conduct of the class period, problems of work and study, and adaptation of instruction to individual differences. The next chapter will deal with measurement of the results of instruction.

It seems desirable at this time to list the various problems which receive consideration in this chapter. One section is devoted to a treatment of the conduct of the class period: general teaching procedures; student reactions, attitudes and interests; the lecture versus the dis-

cussion method; questioning; use of committees, projects, and problems; laboratory techniques in the natural and social sciences; and cooperative and part-time plans. Another section is concerned with: methods of work and study, directed study, and the hygiene of instruction; preparation of notes and papers, use of the library and books; reading; reviewing; and use of time. A third section deals with the problem of adaptation of instruction to individual differences: the exceptional student, individualized instruction, ability grouping, experimental colleges and other types of reorganization, and honor courses and honor students.

General Discussions and Selected Major Investigations of Problems of Method.—Reference is made first to a number of general treatments of classroom method for the benefit of the reader who wishes to develop a background with respect to the general theory involved.[1]

[1] P. W. L. Cox, *Creative School Control.* Philadelphia: J. B. Lippincott Co., 1927. Pp. 320.

H. R. Douglass, *Modern Methods in High-School Teaching.* New York: Houghton Mifflin Co., 1926. Pp. 544.

W. H. Kilpatrick, *Foundations of Method.* New York: Macmillan Co., 1925. Pp. xii + 384.

H. L. Miller, *Creative Learning and Teaching.* New York: Charles Scribner's Sons, 1927. Pp. 262.

H. L. Miller and R. T. Hargreaves, *The Self-Directed School.* New York: Charles Scribner's Sons, 1925. Pp. vi + 412

W. S. Monroe, *Directing Learning in the High School.* Garden City, New York: Doubleday, Page and Co., 1927. Pp. xii + 578.

H. F. Osborn, *Creative Education in School, College, University and Museum.* New York: Charles Scribner's Sons, 1927. Pp. 360.

S. C. Parker, *Methods of Teaching in High Schools.* Boston: Ginn and Co., 1920. Pp. xxviii + 530.

V. T. Thayer, *The Passing of the Recitation.* Boston: D. C. Heath and Co., 1928. Pp. viii + 332.

Douglas Waples, *Problems in Classroom Method.* New York: Macmillan Co., 1927. Pp. xxii + 610.

Although some of the titles include the term "high school," the principles discussed are in a large measure applicable at the college level.

The 1928 and 1929 yearbooks of the National Society of College Teachers of Education are important in their emphasis on methods of teaching in college. The 1928 yearbook includes a number of studies, most of which will be mentioned in subsequent sections of this chapter, and a selected bibliography of 245 references dealing particularly with methods of teaching in college.[2] The 1929 yearbook is a timely summary of current educational experiments in liberal-arts colleges, normal schools and teachers colleges, and schools of agriculture, engineering, and medicine.[3] This yearbook presents facts concerning the efforts of 750 institutions of higher learning to improve instruction. Part of the space is devoted to a summary of more than one hundred published reports and of the results of investigations made within the past five years concerning various phases of instruction in higher institutions. Certain of these efforts toward improvement and selected investigations or experiments will be cited later in the present chapter.

Attention has previously been directed to Morrison's conception of the technique of teaching, including his mastery notion, unit organization of subject matter, types of learning and teaching, the teaching cycle, and provision for individual differences.[4] Space is not

[2] W. S. Monroe and Others, *Studies in Education.* Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928. Pp. x + 118.

[3] W. S. Gray and Others, *Current Educational Readjustments in Higher Education.* Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929. Pp. vi + 160.

[4] H. C. Morrison, *The Practice of Teaching in the Secondary School.* Chicago: University of Chicago Press, 1926. Pp. viii + 662.

available for a discussion of his treatment of the teaching cycle which includes the phases of exploration, presentation, assimilation, organization, and recitation in the typical science-type unit. Unit organization and types of teaching have been discussed. The reader is referred to the volume itself and can hardly fail to be stimulated by the author's penetrating analysis of learning and teaching.

In the volume edited by Hudelson are reports of experiments with class size at the University of Minnesota, a suggested program of investigation for the improvement of instruction in science, and a statement of results secured in an experiment with methods of teaching gross human anatomy.[5] The Presseys' monograph includes reports of investigations of problems of study, curricular adjustment, emotional and character development, previous preparation, and teaching in the university.[6] F. J. Kelly discusses facts and opinions concerning college methods as secured from conferences with teachers and senior students and from questionnaires filled in by alumni and senior students.[7] He describes six general types of college teaching: lecture, class discussion, question and answer, laboratory-study method, tutorial, and individual report or seminar. Koos reports an investigation in which he compared junior-college and college and university instructors with respect to skill in teaching; he reaches the conclusion that junior-college teachers are superior in classroom

[5] Earl Hudelson and Others, *Problems of College Education*, chapters xxxii–xxxv. Minneapolis, Minnesota: University of Minnesota Press, 1928.

[6] S. L. Pressey, L. C. Pressey, and Others, *Research Adventures in University Teaching*. Bloomington, Illinois: Public School Publishing Co., 1927. Pp. vi + 152.

[7] F. J. Kelly, *The American Arts College*, chapter v. New York: Macmillan Co., 1925.

procedure and technique.[8] Book[9] and Seashore[10] have conducted significant investigations of the ways in which college students study, work, learn, and live; the application of such information to classroom procedure is obvious. In the volume edited by R. L. Kelly are discussions of effective teaching and research, ability grouping, and the contribution of the library.[11] Flexner discusses critically the forms of instruction and systems of marking prevalent in colleges, and makes a plea for greater freedom for able students.[12] Certain of the investigations mentioned in this and preceding paragraphs will be summarized in greater detail in subsequent sections of this chapter.

Conduct of the Class Period

Student Attitudes, Incentives, Interests, and Relations with Teachers.—A good summary of studies of methods and devices used to develop student interest, initiative, and responsibility has been provided in a current yearbook.[13] Allen emphasizes the case-conference method in the establishment of desirable attitudes, whether aca-

[8] L. V. Koos, *The Junior-College Movement*, chapter iv. Boston: Ginn and Co., 1925.

[9] W. F. Book, *How to Succeed in College.* Baltimore: Warwick and York, 1927. Pp. 192.

[10] C. E. Seashore, *Learning and Living in College.* University of Iowa Studies in Education, Vol. II, No. 1. Iowa City, Iowa: University of Iowa, 1927. Pp. 124.

[11] R. L. Kelly and Others, *The Effective College*, chapters xi–xiii. New York: Association of American Colleges, 1928.

[12] Abraham Flexner, *A Modern College and a Modern School.* Garden City, New York: Doubleday, Page and Co., 1923. Pp. xviii + 142.

[13] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapter vii. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

demic, vocational, physical, or social, while Katz reports student reaction to methods of instruction, academic freedom, and marking, and attitude toward scholarship and cribbing.[14] Pease says that student criticism of the college of education emphasizes poor teaching and inadequate organization of courses and materials.[15] Remmers found no appreciable relation between the ratings of eleven instructors by 409 students in seventeen classes and the students' academic standing in the classes in question.[16] Holton secured replies from 663 teachers of vocational agriculture concerning the department of the college or university in which the individual's best teacher had been located.[17] Education was mentioned as first choice by 201 persons, more than twice the number of times any of the other twenty-two departments were named. OBrien asked 460 juniors and seniors in college to name the department in which was located the best teacher the individual ever had and found economics and history at the head of the list, while physical education was at the bottom.[18] Students also ranked courses

[14] R. D. Allen, "Creating Right Attitudes toward Student Achievement," *School and Society*, XXVII (May 5, 1928), 521–7.

Daniel Katz, "Student Opinion at Syracuse," *Personnel Journal*, VII (August, 1928), 103–10.

[15] G. R. Pease, "A Graduate Student Criticism of the College of Education," *School and Society*, XXVIII (November 10, 1928), 576–9.

[16] H. H. Remmers, "The Relationship between Students' Marks and Student Attitude toward Instructors," *School and Society*, XXVIII (December 15, 1928), 759–60.

[17] E. L. Holton, "In What Departments in College Do We Find the Best Teachers?" *School and Society*, XXVI (December 31, 1927), 847–8.

[18] F. P. OBrien, "The College Student's Viewpoint," *Studies in Education*, pp. 8–15. Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

considered boresome or valueless. Rohrbach asked graduates and undergraduates in two large universities and undergraduates in three state teachers colleges to express in writing ways in which college teaching could be made more interesting.[19] The criticisms received fell under six categories: (1) organization of courses, (2) assignment of work, (3) stimulation to study, (4) classroom procedure, (5) testing, and (6) personal traits of the teacher. Kelly canvassed University of Minnesota alumni in order to secure their opinions concerning the value of courses taken while in college, reasons for considering courses valuable or of little benefit, selection and training of faculty members, and methods of teaching.[20]

A number of studies and discussions of incentives, interests, and classroom relations should be mentioned. Laird reports the effects of sarcasm in high school as recalled by ninety-two college students.[21] Briggs made a similar study with 370 graduate students who recalled their high-school experiences.[22] In both instances the

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[19] Q. A. W. Rohrbach, "How College Teaching Could Be Made More Interesting, as Viewed by the Student," *ibid.*, pp. 16–23.

[20] F. J. Kelly, "Report on Questionnaire Study of Opinions of Alumni of the University of Minnesota Concerning Courses and Methods of Teaching Used with Freshmen and Sophomores," *ibid.*, pp. 1–7.

Also David Newmark, "Students' Opinions of Their Best and Poorest Teachers," *Elementary School Journal*, XXIX (April, 1929), 576–85.

M. I. Protzman, "Student Rating of College Teaching," *School and Society*, XXIX (April 20, 1929), 513–5.

[21] Donald A. Laird, "How the High School Student Responds to Different Incentives to Work," *Pedagogical Seminary*, XXX (December, 1923), 358–65.

[22] Thomas H. Briggs, "Sarcasm," *School Review*, XXXVI (November, 1928), 685–95.

effect of sarcasm and ridicule was unfavorable. Sims conducted an experiment in which a comparison was made between individual and group motivation; in one instance the individual competed with his own record or with another person and in the second instance competed as a member of a group against another group.[23] Laird made an analysis, based on reports secured from ninety-two students in educational psychology, of the ways in which they responded to various types of incentives.[24] Bridges and Dollinger report a study based on the expressed interests of students in their courses, the marks actually received, and the students' estimates of ability in the given courses.[25] Burr presents a list of concrete suggestions for use in becoming better acquainted with students in the classroom.[26] Lyman discusses the problem of student honor in the form of a digest of information secured from fifty colleges and universities ranging in size from 1,500 to 12,000 students.[27]

Classroom Procedures and Student Reactions to Various Methods of Teaching.—Good descriptions of methods of teaching and of current emphases in classroom procedure are found in two numbers of the *Association of American*

[23] V. M. Sims, "The Relative Influence of Two Types of Motivation on Improvement," *Journal of Educational Psychology*, XIX (October, 1928), 480–4.

[24] Donald A. Laird, "How the College Student Responds to Different Incentives to Work," *Pedagogical Seminary*, XXX (December, 1923), 366–70.

[25] J. W. Bridges and Verona M. Dollinger, "The Correlation between Interests and Abilities in College Courses," *Psychological Review*, XXVII (July, 1920), 308–14.

[26] A. W. Burr, "Who's Who in Our Classes, "*School and Society*, XXVIII (September 1, 1928), 274–6.

[27] R. L. Lyman, "The Problem of Student Honor in College and Universities," *School Review*, XXXV (April, 1927), 253–71.

Colleges Bulletin.[28] Kelly summarizes briefly the innovations attempted in a large number of American colleges and universities; one part of his report is devoted to methods of teaching. Another number of this periodical consists of a series of articles on teaching and related problems at Harvard, Princeton, Minnesota, Antioch, Reed, Rollins, Swarthmore, Whittier, and Stanford.

For an excellent summary of investigations of the merits of different methods of teaching and of suggestions from students, faculty, and alumni relating to the improvement of instruction the reader is referred to a 1929 yearbook.[29] The studies of instruction are grouped under the following heads: types of instruction employed in a large university, socialized procedure, problem method versus the lecture and reading method, value of quiz sections, lecture-recitation method versus supervised individual instruction, lecture method versus class discussion, lecture-conference method versus individualized instruction, etc. Studies of suggestions from students, faculty, and alumni are grouped under the following categories: purpose of the college, organization and administration, reactions by students to subjects and courses, opinions regarding qualities necessary for success in college teaching, rating of teachers by students and alumni, self-appraisal of faculty activities, evaluation of methods of instruction, and student responses to incentives to work.

[28] R. L. Kelly, "The Colleges as Educational Laboratories," *Association of American Colleges Bulletin*, XIII (November, 1927), 322–47.

"How We Teach," *Association of American Colleges Bulletin*, XIV (November, 1928), 359–454.

[29] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapters vi, viii. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

Armentrout reports a questionnaire study of the preferences of four hundred students with respect to number of class periods, use of the period, discussion, readings, papers, examinations, reports, conferences, etc.[30] Betts summarizes the reactions of 116 men and 419 women students in fifteen education courses at Northwestern University with respect to six broad aspects of instruction in education courses. These aspects of method include consideration of the courses in terms of difficulty, time spent, interest, effect, comprehension, and efficiency of teachers. The opinions expressed are rather favorable to the education courses under consideration.[31] Davis comments on certain investigations of college teaching and considers specifically the lecture, case, and discussion methods.[32] Holton secured the opinions of 128 students concerning the merits of the lecture, discussion, and laboratory methods.[33] His findings indicate the popularity of the discussion method with students and the disfavor in which the lecture method is held; seventy-four ranked the former method first, while only eighteen ranked the latter first. Martin bases his discussion of teaching methods on visits to five colleges and questionnaire results from forty students and twenty-one faculty members.[34] Wiseman

[30] W. D. Armentrout, "College Students' Preferences for Certain Mechanics of the Class Period," *School and Society*, XXIV (December 11, 1926), 739–40.

[31] G. H. Betts, "College Students' Reaction to Education Courses," *School and Society*, XXV (April 23, 1927), 494–6.

[32] F. G. Davis, "Methods in College Teaching," *Educational Administration and Supervision*, XIV (October, 1928), 476–84.

[33] E. L. Holton, "A Study of Methods of Presenting Subject-Matter to Undergraduates in Colleges," *School and Society*, XI (January 10, 1920), 58–9.

[34] H. F. Martin, "Methods of Teaching in College Classes," *Pedagogical Seminary*, XXXI (September, 1924), 285–92.

reports the reactions of 150 students in education to thirty-one items of college teaching grouped under the headings of type of content, student activity in class, instructor activity in class, texts and references, special reports, use of class time, and tests and testing.[35] Crawford summarizes defects and difficulties in college teaching as reported by fifty-four college students.[36] He groups the criticisms under eighteen categories:

1. Defects of personality and temperament.
2. Defects regarding academic freedom, propaganda, and dogmatism.
3. Careless and unsatisfactory planning of courses.
4. Lack of study and keeping up with the age.
5. Defects relating to research, writing, and publication.
6. Failure to teach on the student's level.
7. Failure to be practical.
8. Failure to develop the research spirit in students.
9. Lack of personal interest in students.
10. Failure to make courses interesting.
11. Unsatisfactory practices regarding measurement.
12. Defects regarding the use of the lecture method.
13. Defects in the use of the discussion method.
14. Lack of variety in teaching procedures.
15. Failure to adapt the course to the individual student.
16. Improper adjustments of work load.
17. Inefficient routine management.
18. Lack of faculty cooperation.

Watson reports an experiment in which the merits of illustrations taken from teaching situations and from non-human relationships were compared.[37] DeVore secured from forty graduates of normal schools and

[35] C. R. Wiseman, "Methods of College Teaching," *School and Society*, XXVIII (October 6, 1928), 433–4.

[36] C. C. Crawford, "Defects and Difficulties in College Teaching," *School and Society*, XXVIII (October 27, 1928), 497–502.

[37] G. B. Watson, "A Comparison of Two Types of Illustration for Teaching Educational Psychology," *Journal of Educational Psychology*, XVIII (October, 1927), 433–44.

teachers colleges comments on demonstration lessons, observation, lesson plans, criticism of student teaching, and conferences with critic teachers.[38] Winchell presents a questionnaire study of content and method in home economics.[39] A few other treatments of problems of teaching may be cited.[40]

The Lecture versus the Discussion Method.—In the preceding discussion of student reaction to methods of teaching a number of studies were cited which include comments on the lecture and discussion methods. At this time additional investigations and discussions of these procedures will be mentioned and in certain instances summarized briefly.

Bane conducted a series of five experiments in order to compare the relative effectiveness of the lecture and discussion methods.[41] His conclusions are: (1) the lecture and class-discussion methods of college teaching appear about equally effective in the immediate recall of

[38] Emily De Vore, "Improvement of Practice-Teaching as Suggested by Graduates of One Year's Teaching Experience," *Educational Administration and Supervision*, XIII (December, 1927), 611–24.

[39] Cora M. Winchell, "A Survey of Methods Used in Professional Courses in Home Economics," *Teachers College Record*, XXIV (March, 1923), 132–46.

[40] W. F. Sanders, "How We Teach at Park College," *Association of American Colleges Bulletin*, XIV (December, 1928), 517–21.

A. S. Barr, "Scientific Analysis of Teaching Procedures," *Journal of Educational Method*, IV (May, 1925), 360–71.

J. M. Stalnaker and H. H. Remmers, "Can Students Discriminate Traits Associated with Success in Teaching?" *Journal of Applied Psychology*, XII (December, 1928), 602–10.

[41] C. L. Bane, "The Lecture vs. the Class-Discussion Method of College Teaching," *School and Society*, XXI (March 7, 1925), 300–2.

C. L. Bane, "The Lecture versus the Class-Discussion Method of College Teaching." Unpublished Doctor's thesis, University of Iowa, 1924.

content material; (2) the class-discussion method is more effective than the lecture in the delayed recall of subject matter; and (3) the lecture method is more suitable for the immediate recall of subject matter than for its retention to a later period, while the reverse is true of the class-discussion method. However, Spence concludes that for two large sections of graduate students in educational psychology the lecture method was superior to the discussion method in producing improvement in things measured by the tests employed.[42] His qualifying statement is to the effect that decrying of the wholesale use of lectures in college teaching is probably justified, but that just as certainly wholesale decrying of the use of lectures in college teaching is not justified.

Horne lists a series of statements made by students who attempted to describe the discussion method, to list its strong and weak points, and to make constructive criticisms for improvement.[43] Kelly is of the opinion that most college teachers who claim to use the discussion method really employ a procedure which is primarily questions by the teacher and answers by the students.[44] Foster suggests that the problem may be *how* to lecture rather than *whether* to lecture.[45] Estabrooks describes his lecture technique in elementary psychology which involves the following points: (1) his lectures are designed to cover all the essentials of the textbook; (2) he lectures and does not discuss with elementary students; (3)

[42] R. B. Spence, "Lecture and Class Discussion in Teaching Educational Psychology," *Journal of Educational Psychology*, XIX (October, 1928), 454–62.

[43] H. H. Horne, "University Students on the Discussion Method," *School and Society*, XVI (August 19, 1922), 218–21.

[44] F. J. Kelly, *The American Arts College*, chapter v. New York: Macmillan Co., 1925.

[45] H. H. Foster, "Lecturing vs. Class Discussion," *School and Society*, XXI (March 28, 1925), 386–7.

preparation of new work is not stressed; (4) review is stressed greatly; (5) the daily quiz is used to insure review; (6) a careful system of instructor's notes is essential; and (7) the technique lends itself to an objective form of examination.[46] Reference[47] should be made to Parker's discussion of the conversational method and Quiller-Couch's treatment of the lecture method.

Crawford has prepared a concise discussion of procedures in listening to lectures that should be of especial benefit to the student and at the same time should aid the teacher in more effective presentation. He organizes his advice to the student under the following rules:[48]

1. Adapt your listening procedure to the purpose of the particular lecture.
2. Adopt a study attitude toward most school lectures.
3. Listen to some lectures as you would to music or literature.
4. Adapt your procedure to the particular style or method of the lecturer.
5. Keep active during the lecture.
6. Listen critically, thoughtfully, and understandingly.
7. Supplement the lecture from your own experience.
8. Get ready for a lecture by studying the subject beforehand.
9. Correlate lecture material with material from other sources.
10. Take notes on the lecture.
11. Get the speaker's outline.
12. Get a summary of the entire lecture in a few words.
13. Give special attention to the speaker's introductory statements.
14. Get not only the speaker's ideas, but also the key words by which he expresses them concisely.

[46] G. H. Estabrooks, "A Lecture Technique for a Content Course," *School and Society*, XXVII (February 4, 1928), 141–3.

[47] S. C. Parker, *Methods of Teaching in High Schools*, chapter xviii. Boston: Ginn and Co., 1920.

Sir A. T. Quiller-Couch, *A Lecture on Lectures*. New York: Harcourt, Brace and Co., 1928. Pp. 60.

[48] C. C. Crawford, *The Technique of Study*, chapter iii. Boston: Houghton Mifflin Co., 1928.

15. Get both the details and the main points.
16. Follow the rambling lecture and organize it later.
17. Reproduce the lecturer's diagrams and blackboard sketches in your notes.
18. Make the most of humorous or concrete illustrations.
19. Learn the speaker's vocabulary, but translate it into your own.
20. Continue your study of the lecture after the class period.
21. Record notes on sources of material bearing on the lecture.
22. Interpret the lecture partly by the help of the speaker's inflections.
23. Watch the speaker.
24. Enter into the lecture with a cooperative attitude.
25. Interrupt the lecturer when you have a vital question to ask or a special reaction.
26. Help to keep the lecturer's mind alert and active while he lectures.
27. Be prepared for tests on what you get from lectures.

The Art of Questioning.—The reader is referred to Parker's discussion for a good statement of procedures to be employed in the questioning of students.[49] Kelly is of the opinion that the question and answer technique, as ordinarily practiced in college, is not really a method of teaching, but a quiz.[50] He reports that college teachers believe students are kept mentally alert by interjecting occasional questions throughout lectures. Obviously, the extreme to which a high-school teacher of history went should be avoided. The principal found on observing these classes that the teacher's questions and discussions occupied on the average about 91 per cent of the fifty-minute period and that during one period the teacher asked fifty-five questions.[51]

Use of Committee Techniques, Projects, and Problems.—In chapter iv attention was directed to the current tend-

[49] S. C. Parker, *op. cit.*, chapter xx.

[50] F. J. Kelly, *op. cit.*, chapter v.

[51] Carter V. Good, *The Supplementary Reading Assignment*, p. 101. Baltimore: Warwick and York, 1927.

ency to organize materials of instruction around cases, problems, or projects and to form committees or groups which work toward the solution of the given problems or projects. A few of the references cited at that time very appropriately may be repeated at this point because of their relation to methods of teaching.[52] Lessenger describes an interesting plan worked out at Detroit Teachers College.[53] At the beginning of the class meeting the instructor spends several minutes in answering unsolved problems of the previous day and in pointing out important generalizations. Students have brought to class certain completed contracts or projects which had been previously outlined on job or work sheets. They seat themselves in small groups of three, four, or five, according to the amount and difficulty of the work undertaken, and evaluate each other's work. At the end of the period some time, ten or fifteen minutes, is given to generalizing the principles involved in the day's

[52] W. H. Kilpatrick, "The Project Method in College Courses in Education," *Educational Review*, LXIV (October, 1922), 207–17.

Laura Cairns, "Health Instruction by Means of Committees," *Educational Administration and Supervision*, XIII (September, 1927), 407–10.

Belva Swalwell, *Problem Method of Teaching Hygiene and Sanitation.* Ann Arbor, Michigan: Edwards Brothers, 1926.

Also V. E. Esson and R. D. Cole, "The Effectiveness of the Contract Method as Compared with the Ordinary Method of Teaching," *School Review*, XXXVII (April, 1929), 272–81. Reports an experiment the results of which favored the contract method.

Lucile Marsh, "The Project Method in Speech Education," *Quarterly Journal of Speech*, XV (April, 1929), 181–8.

Alvin O'Konski, "The Project Method in the Teaching of Speech," *Quarterly Journal of Speech*, XV (April, 1929), 188–94.

[53] W. E. Lessenger, "An Experiment in Individualized Instruction on the College Level," *Studies in Education*, pp. 36–41. Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

work and in providing stimulation for the work of the next period.

Professor J. B. Edmonson of the School of Education, University of Michigan, during the summers of 1927 and 1928 divided his education class into committees, each of which prepared a summary of a unit in the course. These summaries or digests were arranged in chapters, edited, and published as a mimeographed volume, which was bound and sold to members of the class and others at the end of the summer session. Students who participated in the work seemed enthusiastic over this plan which gave them concrete information concerning the units of the course in question and a useful notebook in printed form of the summer's work, as well as provided for a large amount of self-activity.

The Laboratory Method.—Freeman lists the aims of laboratory work as follows:[54]

1. Teach the use of apparatus and equipment in a certain field.
2. Teach methods of attacking problems.
3. Teach standards for distinguishing significant from insignificant data and drawing rational conclusions.
4. Teach methods of gathering facts.
5. Teach modes of keeping scientific records.
6. Teach open-mindedness, or unbiased observation.
7. Teach scientific modes of thought.
8. Teach the student to do, rather than know.
9. Teach methods of research.
10. Develop the power to weigh evidence—suspend judgment.
11. Develop analytic power.
12. Gain experience in actual measurements.
13. Gain facility in the manipulation of tools.
14. Gain precision.
15. Develop honesty.

[54] E. M. Freeman, "Suggested Program of Investigation Having in Mind the Improvement of Instruction in Science at the University of Minnesota," *Problems of College Education*, pp. 440–1. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

16. Develop habits of self-reliance, originality, and good judgment.
17. Distinguish between accuracy and vagueness.
18. Improve the correlation of ideas or sensing of relationships.
19. Train the mind in logical reasoning.
20. Train the imagination.
21. Instill the scientific attitude.
22. Train in the interpretation of nature and her laws.
23. Learn to relate hypothesis, theory, and law.
24. Learn the meaning of a principle (abstraction).
25. Develop ingenuity.
26. Stimulate interest.
27. Give clearer percepts.
28. Teach accuracy of observation.
29. Stimulate the imagination in formulating tentative hypotheses.
30. Give opportunity for self-expression.
31. Give opportunity for first-hand observation.
32. Produce a deeper impression.
33. Develop appreciation of the experimental side of science.
34. Develop skill in the technique of measurement.
35. Give personal familiarity with the facts.
36. Develop the spirit of investigation.

Crawford presents a list of twenty-six statements concerning laboratory work which should prove helpful to teachers and students.[55]

1. Turn the work of all courses into laboratory form.
2. Adapt laboratory procedure to the purpose for which you are studying the subject.
3. Subordinate quantitative work to qualitative.
4. Avoid obscuring the underlying principles by placing too much emphasis on the more concrete elements.
5. Strike a compromise between discovery and verification of facts.
6. Perform some laboratory exercises as practice or drill.
7. Look for practical applications of what you learn through the laboratory.

[55] C. C. Crawford, *The Technique of Study*, chapter xiv. Boston: Houghton Mifflin Co., 1928.

8. Correlate laboratory work with class work.
9. Prepare for the experiment before you come to the laboratory.
10. Proceed according to the principles of scientific method.
11. Follow directions.
12. Secure the necessary equipment, and learn how to use it effectively.
13. Make up informal experiments of your own.
14. Make a compromise between independent and cooperative work.
15. Ask for criticism of your work.
16. Employ special devices to improve observation.
17. Use drawing as an aid in your laboratory work.
18. Write up the report on the experiment as you go.
19. Write up the report on the experiment in good form.
20. Economize time.
21. Get acquainted with the laboratory.
22. Be a good housekeeper in the laboratory.
23. Help reduce the financial cost of laboratory work
24. Help to preserve order and reduce routine distractions.
25. Respect the rights of others in the laboratory.
26. Help to promote safety and to prevent accidents.

Downing summarizes in an effective way experiments made to determine the respective merits of lecture-demonstration and laboratory methods of instruction in science.[56]

The lecture-demonstration method of instruction yields better results than the laboratory method in imparting essential knowledge and is more economical of time and expense. This is true for both bright and dull pupils and for all types of experiments. The last two points need additional experimental confirmation.

The lecture-demonstration method appears to be the better method for imparting skill in laboratory technique in its initial stages and for developing ability to solve new problems. Again, these two items are tentative conclusions, and further experiments will be required to establish them.

[56] E. R. Downing, "Comparison of the Lecture-Demonstration and the Laboratory Methods of Instruction in Science," *School Review*, XXXIII (November, 1925), 688–97.

Oral instructions are, in general, more effective than written instructions in lecture demonstration but less effective in laboratory work.

"What the experiment proves" is the item on which most pupils fail and is evidently the point to be stressed in teaching.

In science teaching we need to concentrate on a few fundamental principles and to curtail the multiplicity of details in order that pupils may retain the instruction. "Teach for keeps" must be the slogan.

A number of other treatments of laboratory work merit attention, although limitations of space make it impossible to summarize them at this time.[57]

Laboratory techniques are not limited to the natural and biological sciences, but have been recommended and employed in the social sciences. The Rollins College experiment is an interesting one.[58] The system employed

[57] S. C. Parker, *Methods of Teaching in High Schools*, chapter xix. Boston: Ginn and Co., 1920.

F. D. Curtis, *A Digest of Investigations in the Teaching of Science in the Elementary and Secondary Schools.* Philadelphia: P. Blakiston's Son and Co., 1926. Pp. x + 342.

E. M. Freeman, "Procedures and Results of Efforts to Reorganize Science Instruction in the University of Minnesota," *Peabody Journal of Education*, VI (January, 1929), 204–18.

W. G. Bowers, "The Advantages of Laboratory Work in the Study of Elementary Chemistry," *Journal of Chemical Education*, I (March, 1924), 207.

W. G. Bowers, "The Importance of the Laboratory Work as Compared with Textbook Work, etc., in the Study of Chemistry," *School Science and Mathematics*, XXIV (June, 1924), 606–13.

W. G. Bowers, "Grouping Students for Work in the Chemical Laboratory," *Education*, XLV (March, 1925), 429–37.

W. W. Lucasse, "The Possible Over-Emphasis of Laboratory Instruction in Higher Institutions," *Journal of Chemical Education*, V (February, 1928), 142–150.

[58] G. E. Carrothers, "An Experiment at Rollins College," *School Review*, XXXV (March, 1927), 184–7.

G. E. Carrothers, "The Workshop Method of Teaching in Rollins College," *Association of American Colleges Bulletin*, XIV (November, 1928), 411–8.

is called a two-hour seminar or workshop plan. During this time the students spend their time in studying, in conferring with the instructor, in holding discussions in small groups, in writing class papers, in preparing outlines, and in studying other matters incident to the mastery of the subject. At times the whole group may be called together for a conference on a common topic, with the instructor as the leader in the discussion.

Part-Time, Travel, Field-Work, and Apprenticeship Plans.—In chapter iv a number of plans were mentioned which aim to link together more closely the academic subject matter and theory of the higher institution with the practice in the field. A few of these schemes are the cooperative or part-time plan, for which the Univerisity of Cincinnati became famous, the junior year abroad, field work, interneship, apprenticeship, student teaching, and participation in surveys. A few illustrative descriptions of such plans may be mentioned at this time.[59]

G. E. Carrothers, *Rollins Plan of College Instruction.* Winter Park, Florida: Rollins College, 1927. Pp. 24.

Hamilton Holt, "An Adventure in Common Sense Education," *School and Society*, XXVII (May 12, 1928), 555–8.

[59] A. E. Morgan, "Antioch's Adventure," *Progressive Education*, IV (October-November-December, 1927), 290–4.

H. H. Nininger, "An Experiment in Itinerant Education," *School and Society*, XXVIII (October 20, 1928), 484–8.

W. A. Neilson and Others, "The Junior Year Abroad," *Association of American Colleges Bulletin*, XIV (April, 1928), 216–37.

D. A. Robertson, "The Junior Year Abroad: A Successful Experiment," *Educational Record*, IX (January, 1928), 32–45.

C. S. Ell, "Cooperative Education," *School and Society*, XXVI (October 8, 1927), 439–44.

H. L. Humke, "Cooperative Teacher Training at Evansville College," *School and Society*, XXIV (August 14, 1926), 206–7.

A. G. Paul and H. H. Bliss, "Cooperative Part-Time Work in the Junior College," *The Junior College*, pp. 141–54. Edited by

Summary Statement.—The concluding statements of two chapters in a yearbook, which summarize the merits of different methods of teaching in college and the reaction of students, alumni, and faculty with respect to the improvement of teaching are significant.[60]

The limited extent to which controlled experimentation in the field of college teaching has been carried on leads to the suggestion that work of this kind should be encouraged. The repetition of some of the experiments which have already been tried with limited groups, together with the setting up of experimental conditions for the comparison of types of teaching which have not yet been experimented with, would seem worthy projects for those interested in the improvement of college instruction. The studies reported in this section are particularly rich in suggestion of techniques for the evaluation of different teaching procedures. The paucity of reliable standardized tests in college subject-matter fields necessitates the use of other measures of results, more or less objective, such as the testimony of students or instructors, subsequent elections in the same field by the students experimented upon, and objective tests administered before and after experimentation.

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The studies summarized in this section present a body of information that is both interesting and significant. Many valuable reforms have resulted from suggestions offered by faculty, students, and alumni. The fact should be pointed out, however, that most of the information reported in this section was secured

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W. M. Proctor. Stanford University, California: Stanford University Press, 1927.

J. W. Roe, "Cooperative Plan of Engineering Education," *Management Engineering*, II (May, 1922), 269–74.

W. H. Timbie, "Cooperative Courses in Colleges," *School and Society*, XXVIII (December 8, 1928), 709–14.

W. L. Evans and J. E. Day, "An Experiment in Cooperative Teaching," *Journal of Chemical Education*, V (September, 1928), 1133–5.

[60] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, pp. 101–2, 131. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

through the use of questionnaires. In this connection, one is justified in asking concerning the criteria in the minds of students or alumni when answering questions about the qualities of instructors, teaching methods, and other items relating to instruction. Certainly, information of the type presented must be supplemented by the results of intensive studies of fundamental problems relating to instruction.

Study Problems

Methods of Work and Study, Directed Study, and the Hygiene of Instruction.—Of late much interest has been shown in problems of study at the college level. The number of orientation courses in existence, the organization of freshman week, personnel work, and the large number of orientation textbooks are evidence of this interest. A few of these publications which are of value to teacher and student should be listed with brief comment.

Book[61] discusses personal efficiency, physiological and psychological factors in work, aids for promoting effective work, applied psychology of learning, and pseudo-efficiency; he also reports the results of four years' investigation of college students' habits of living, work, and study and the conduct of a "how to study class" at Indiana University. Seashore's monograph is of like value.[62] Reference has been made to Crawford's volume which is a reorganization and enlargement of his earlier book.[63] Among the topics treated with

[61] W. F. Book, *Learning How to Study and Work Effectively.* Boston: Ginn and Co., 1926. Pp. xviii + 476.

W. F. Book, *How to Succeed in College.* Baltimore: Warwick and York, 1927. Pp. 192.

[62] C. E. Seashore, *Learning and Living in College.* University of Iowa Studies in Education, Vol. II, No. 1. Iowa City, Iowa: University of Iowa, 1927. Pp. 124.

[63] C. C. Crawford, *The Technique of Study.* Boston: Houghton Mifflin Co., 1928. Pp. x + 354.

C. C. Crawford, *Methods of Study.* Published by the author at Moscow, Idaho, University of Idaho, 1926. Pp. 164.

respect to habits of study are: notes, lectures, textbooks, skill, memorizing, thinking, interest, vocabulary, library, papers, review, tests, laboratory, and teaching study habits. Fenton deals with the conditions, elements, and methods of effective study.[64] Headley discusses mental and physical fitness, library usage, note-taking, examinations, use of time, concentrating, understanding, learning, remembering, judging, reasoning, and reading.[65] Kornhauser treats methods of study, note-taking, examinations, etc.[66] Lyman includes discussions of studying, thinking, and reading.[67] Whipple has revised his popular treatment of how to study, which is really a list of rules to be observed for effective work and study, and has provided a companion exercise book.[68]

Charters presents information secured from forty-four college women who were interviewed for forty-five minutes each.[69] The topics used for the interview were: incidental habits connected with studying, concentration and distraction, group study, methods of studying the textbook, methods of preparing a thought assignment, note-taking, methods of memorizing, and methods of

[64] Norman Fenton, *Self-Direction and Adjustment.* Yonkers-On-Hudson, New York: World Book Co., 1926. Pp. vi + 122.

[65] L. A. Headley, *How to Study in College.* New York: Henry Holt and Co., 1926. Pp. x + 418.

[66] A. W. Kornhauser, *How to Study.* Chicago: University of Chicago Press, 1924. Pp. viii + 44.

[67] R. L. Lyman, *The Mind at Work.* Chicago: Scott, Foresman and Co., 1924. Pp. 350.

[68] G. M. Whipple, *How to Study Effectively* [revised]. Bloomington, Illinois: Public School Publishing Co., 1927. Pp. 96.

G. M. Whipple, *Exercises in Studying:* For use with *How to Study Effectively.* Bloomington, Illinois: Public School Publishing Co., 1927.

[69] Jessie A. Charters, "Methods of Study Used by College Women," *Journal of Educational Research,* X (December, 1924), 344–55.

gaining appreciation. Garth bases his investigation on the unsigned "confessions" of two hundred students who described how they actually prepared their lessons.[70] In order to compare methods of study with intelligence and achievement, Ross and Klise secured from 472 students questionnaire information concerning certain general or miscellaneous practices, concentration and distraction, memorizing, the textbook assignment, note-taking, and the study schedule.[71]

A recent series of articles dealing with problems of study is especially valuable for its bibliography and survey of the literature in the field.[72] Brownell's critical evaluation of investigations in the field of supervised or directed study is outstanding.[73] Witty and Lehman conclude from an experiment with four groups of students that the problem of proper study habits is primarily one of proper reading methods and the speeding up of silent reading.[74] Pressey decides on the basis of experience with fifty probation students in methods of study classes that the course is justified by the resulting aca-

[70] T. R. Garth, "How College Students Prepare Their Lessons," *Pedagogical Seminary*," XXVII (March, 1920), 90–8.

[71] C. C. Ross and Nira M. Klise, "Study Methods of College Students in Relation to Intelligence and Achievement," *Educational Administration and Supervision*, XIII (November, 1927), 551–62.

[72] Maxie N. Woodring and Cecile W. Flemming, "A Partial Bibliography on Study," *Teachers College Record*, XXIX (February, 1928), 417–44; "A Survey of Investigations on Study," XXIX (March, April, 1928), 527–49, 605–17; "Diagnosis as a Basis for the Direction of Study," XXX (November, 1928), 134–47.

[73] W. A. Brownell, *A Study of Supervised Study*. University of Illinois Bulletin, Vol. XXII, No. 41. Urbana, Illinois: University of Illinois, 1925. Pp. 48.

[74] P. A. Witty and H. C. Lehman, "Teaching the College Student 'How to Study,'" *Education*, XLVIII (September, 1927), 47–56.

demic careers of the students electing it.[75] Mention only can be made of a number of additional treatments of study problems in college.[76]

Crawford's suggestions for procedure in teaching study habits are well worth listing.[77]

1. Give a definite course on methods of study.
2. Teach study habits by giving training in addition to advice.
3. Encourage different students to compare their methods of doing particular tasks.
4. Provide subject-matter that is worth studying.
5. Provide motivation for the students' study.
6. Show the student the reason why the material should be studied.
7. Provide an aim in life and also an aim in the particular unit of subject-matter to be studied.
8. Induce study by requiring students to get results.
9. Direct study by means of the kinds of tests that are to be employed to measure results.
10. Teach in the way you expect your students to study.
11. Show samples in class of good study technique.
12. Improve study by means of the assignment.
13. Give more assignments which require original investigation.
14. Make use of mimeographed study-guides and self-teaching textbooks.

[75] Luella C. Pressey, "The Permanent Effects of Training in Methods of Study on College Success," *School and Society*, XXVIII (September 29, 1928), 403–4.

[76] G. M. Whipple, "Experiments in Teaching Students How to Study," *Journal of Educational Research*, XIX (January, 1929), 1–12.

Ruth Strang, "Another Attempt to Teach How to Study," *School and Society*, XXVIII (October 13, 1928), 461–6.

Florence McMurty, "Open Book Method for First Term College Freshmen," *Educational Administration and Supervision*, XIV (December, 1928), 637–42.

J. W. Field, "The Concentric Method of Study and Teaching," *Journal of Educational Research*, IX (May, 1924), 382–9.

[77] C. C. Crawford, *The Technique of Study*, chapter xv. Boston: Houghton Mifflin Co., 1928.

15. Reveal the course as a whole to the students, instead of presenting it in daily "spoonfuls."
16. Allow individual freedom of choice in the matter of some study techniques.
17. Improve study by concentrating on the students' difficulties.
18. Give assistance wisely to individuals who need it.
19. Adjust the work to the capacity of the student.
20. Direct study by regulating the amount of time allowed for tasks.
21. Improve study by regulating the study schedule.
22. Provide an environment that is favorable to study.
23. Cultivate friendly student-teacher relations.
24. Teach study habits by providing appropriate sources of information.
25. Assume the responsibility for drill instead of putting it all on the student.
26. Teach study habits by means of written exercises.
27. Use questions to stimulate and direct study.
28. Teach both special and general study habits.
29. Understand the psychology of the subject your students are studying.
30. Observe the actual studying that your students do.
31. Supervise the work of your students as they study their lessons.
32. Cultivate study habits by having more study and less teaching.
33. Provide a proper balance between home and school study.

Excellent discussions of the hygiene of instruction and mental hygiene may be found in volumes by Averill,[78] La Rue,[79] and Burnham.[80] The latter has provided an extended treatment of seven great teachers: Socrates, Jesus, Roger Bacon, Vittorino, Trotzendorf, Comenius, and G. Stanley Hall.

[78] L. A. Averill, *The Hygiene of Instruction.* Boston: Houghton Mifflin Co., 1928. Pp. 386.

[79] D. W. La Rue, *Mental Hygiene.* New York: Macmillan Co., 1927. Pp. 444.

[80] W. H. Burnham, *Great Teachers and Mental Health.* New York: D. Appleton and Co., 1926. Pp. xiv + 352.

Taking Notes and Preparation of Papers.—Crawford concludes from the results of seven experiments that students who take notes on a lecture have a material advantage over those who do not take notes, as measured by the various tests used.[81] Johnson presents interesting information, secured by a questionaire, on the study habits and note-taking of fifty-two graduate students.[82] The article includes a list of the activities performed by the students in studying a reference preparatory to examination, twenty-five reasons for taking notes more liberally in some classes than in others, purposes served by notes taken during reading, and purposes served by lecture notes. Purposes served by notes taken during reading are ranked in decending order as follows: future use in professional work, review, preparation of term paper or report, aid to memory, assistance in courses, and preparation of addresses. Purposes served by lecture notes are ranked from highest to lowest as follows: review, aid to memory, professional use, guide to library reading, summary of work, handy source of information, preparation of papers, securing point of view of instructor, and preparation of addresses.

Two comprehensive treatments of note-taking may be mentioned.[83] Dow's discussion is of especial signifi-

[81] C. C. Crawford, "Some Experimental Studies of the Results of College Note-Taking," *Journal of Educational Research*, XII (December, 1925), 379–86.

C. C. Crawford, "A Quantitative Study of the Results of Note-Taking in College Classes." Unpublished Doctor's thesis, University of Chicago, 1924.

[82] R. I. Johnson, "Study-Habits and Note-Taking of Graduate Students," *School Review*, XXXII (April, 1924), 293–9.

[83] E. W. Dow, *Principles of a Note-System for Historical Studies*. New York: Century Co., 1924. Pp. vi + 124.

A. T. Robinson, *Notes and Outlines*. Boston: D. C. Heath and Co., 1922.

cance for the student of history and the worker who uses extensively documentary research. Crawford organizes his chapter on note-taking around twenty-five helpful rules for procedure.[84]

1. Start a definite system of notes early in your career as a student.
2. Use a loose-leaf notebook.
3. Use a large-size notebook.
4. Plan a filing system along with your note-taking system.
5. Adopt a fairly small unit.
6. Give each sheet of notes a clear heading to show its source and its subject.
7. Assign to each note a number or letter to represent its status in the outline.
8. Indent subdivisions.
9. Indent overrun lines slightly more than the beginnings of the first lines.
10. Leave reasonably wide margins.
11. Avoid writing notes in long paragraphs.
12. Ordinarily finish a unit on the back of the sheet.
13. Mark and underline books.
14. Take notes in quotation form only for special purposes.
15. State points briefly and concisely.
16. Study and practice the technique of condensing thought.
17. Get the points down in their true outline or logical relationship.
18. Practice to increase your speed of note-taking.
19. Take notes in the best form possible, and revise them later if necessary.
20. Do not employ shorthand.
21. Typewrite your notes only in special cases.
22. Learn the special technique of taking notes on books.
23. Learn the special tricks of taking notes on lectures.
24. Beware of becoming a notebook slave.
25. Beware of the mental stagnation that comes from relying only on previous notes.

Reference may be made to a treatment of the preparation of papers, reports, and theses which includes a full

[84] C. C. Crawford, *The Technique of Study*, chapter ii. Boston: Houghton Mifflin Co., 1928.

bibliography of publications useful in this type of activity.[85] Crawford lists nineteen principles to be observed in the preparation of papers and discusses each briefly.[86]

1. Select a suitable subject.
2. Set up your objectives as thoroughly as possible before you begin.
3. Revise the plan as the reading progresses.
4. In some cases take down whatever you can find and organize later.
5. Make plenty of provision for writing.
6. Take notes in a form especially adapted to the task.
7. Give considerable thought to the major outline.
8. Outline the paper in detail before writing it.
9. Profit from the procedures employed by people who write books.
10. Embody your own original contributions in the paper.
11. Make the paper give evidence of wide reading.
12. Maintain an objective attitude toward the subject.
13. Include an outline or a detailed table of contents.
14. Set forth the outline in clear form throughout the paper by means of prominent headings.
15. Include a bibliography.
16. Cite sources of borrowed material by means of footnotes.
17. Put your ideas into correct English.
18. Provide for some kind of criticism and revision.
19. Pave the way for future writing by saving and filing materials now.

Criteria for Planning a Scientific Paper or Report of Research.—The subsequent outline indicates the points which should be considered by an investigator in

[85] Carter V. Good, *How to Do Research in Education*, chapter ix. Baltimore: Warwick and York, 1928.

[86] C. C. Crawford, *op. cit.*, chapter xi.

Also see W. F. Book, *Learning How to Study and Work Effectively*, chapter xviii. Boston: Ginn and Co., 1926.

R. W. Frederick, "The Term Report as a College Teaching Device," *School and Society*, XXIX (February 23, 1929), 256–8.

making his report.[87] It may serve as a check list in determining whether important matters have been overlooked in the written account of an investigation. Monroe and Engelhart discuss each of these points and sub-points in some detail. The suggestion is made that such criteria are of service in evaluating research reports as well as in planning or preparing written accounts of research.

Summary of Criteria

A. General structure of a report
   1. Major divisions
      a. Are the following divisions reasonably explicit: definition of problem, collection of data, treatment of data, discussion of each question to be answered, and the conclusion?
   2. Introduction
      a. Is the problem introduced in such a way that a competent reader will understand and appreciate the purpose of the report?
      b. Has superfluous material been eliminated from the introduction?
   3. Definition of problem
      a. Is the reader given a precise statement of the questions to be answered?
      b. In case the problem is related to other problems, are the relations made clear to the reader?
   4. Conclusion
      a. Is the reader given in convenient form an explicit answer to each question included in the "definition of the problem?"

B. Development, evaluation, and organization of ideas
   5. Trend of thought
      a. As the reader "traces" the writer's thinking, will he be led from a clearly defined problem to a critical and scholarly answer by a route that is satisfying to him?

[87] Walter S. Monroe and Max D. Engelhart, *The Techniques of Educational Research*, pp. 58–61. University of Illinois Bulletin, Vol. XXV, No. 19. Urbana, Illinois: University of Illinois, 1928.

b. Is an encyclopedic enumeration of ideas or facts avoided?

6. Development of ideas
   a. Has the writer avoided leaving "gaps" in his "trend of thought" for the reader to fill in?
   b. Have the important ideas been "developed" so that the average reader will fully comprehend them?
   c. Has the writer developed his ideas so completely that no points have been overlooked which might leave the reader with unanswered questions?
7. Evaluation of ideas
   a. Have all irrelevant ideas been eliminated?
   b. Have the ideas been grouped properly with reference to their relative importance?
8. Accuracy of interpretation
   a. Have the data been accurately interpreted?
   b. Do the statements agree with generally accepted opinion and "common sense?" If not, is attention called to such disagreements?
9. Precision of statement
   a. Are the statements made so that they will convey to the reader exactly the meaning intended?
   b. Are all statements worded so that ambiguity or indefiniteness is avoided?

C. Details of structure and form

10. Diction
    a. Have appropriate words and phrases been used at all times?
    b. Have particular words and phrases been used with a consistent meaning?
    c. Have words and phrases to which common practice has assigned technical meanings been used correctly?
    d. Has attention been called explicitly to each word or phrase used with an unusual or restricted meaning?
    e. Has the "over-working" of certain words been avoided?
11. Clearness
    a. Is the vocabulary suitable for the intended audience?
    b. Are the ideas expressed in simple yet definite language?
12. Rhetoric, grammar, spelling, and punctuation
    a. Have the rhetorical rules relative to unity, coherence, and emphasis in sentence and paragraph construction been properly observed?
    b. Have rules of grammar been observed?

c. Are all words correctly spelled?
d. Has consistency in the plan of punctuation been observed?

13. Form of tables and graphs
    a. Are the captions of tables at the top and those of graphs at the bottom?
    b. Are the captions, box headings, and other labels sufficiently complete so that a competent reader will be able to understand the table or graph without referring to the accompanying text?
14. Explanation and interpretation of tables and graphs
    a. Has the enumeration of the facts summarized in a table or diagram been minimized in the accompanying text?
    b. Is the accompanying text sufficiently complete so that it is unnecessary for the reader to refer to the table or diagram in order to follow the trend of thought?
    c. Are references to tables and graphs sufficiently explicit so that the reader will have no difficulty in locating the correct table or graph?
    d. In interpreting a table or graph, is the introduction of irrelevant facts or comments avoided, so that the trend of thought is not broken?
15. References to sources of information
    a. Are bibliographical references given for statements or facts taken from the works of other persons?
16. Bibliographical form
    a. Are all references both in footnotes and in bibliographies given in an approved bibliographical form?
17. Chapter titles, table of contents, preface, title page, order of paging, spacing, kind of paper, and so forth.
    a. Have conventional rules with reference to chapter titles, table of contents, and so forth been observed?
18. Footnotes
    a. Have footnotes been used to give needed explanations or other comments which will make more certain a correct and complete understanding by the reader?
    b. Has material which would tend to break the trend of thought but which is desirable to include been placed in a footnote or in an appendix?
19. Miscellaneous
    a. Have conventional rules with reference to abbreviations, division of words, spelling out numbers, and so forth been compiled with?

Use of the Library and Books.—In chapter i detailed suggestions concerning sources of information on higher education were listed. This chapter may be supplemented by information which is available in other sources.[88] English reports a questionnaire study of student instruction in library usage in ninety-two colleges, of which number forty-three or 46 per cent give such training.[89] Tandy describes various sources of information on bibliographical training and plans for instruction of students in library usage.[90] One of a series of articles on college teaching is concerned with library problems.[91] Two additional discussions of the library as an aid to effective teaching should be cited.[92]

[88] Carter V. Good, *How to Do Research in Education*, chapter ii Baltimore: Warwick and York, 1928.

C. C. Crawford, *The Technique of Research in Education*, chapter xv. Los Angeles, California: University of Southern California, 1928.

Carter Alexander and Others, *Educational Research.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. vi + 42.

M. Hutchins, A. S. Johnson, and M. S. Williams, *Guide to the Use of Libraries.* New York: H. W. Wilson Co., 1922.

L. Belle Voegelein, *List of Educational Subject Headings.* Columbus, Ohio: Ohio State University, 1928. Pp. xiv + 338.

[89] Ada J. English, "How Shall We Instruct the College Freshman in the Use of the Library?" *School and Society*, XXIV (December 25, 1926), 779–85.

[90] Jennette R. Tandy, "College Teaching of Elementary Bibliography," *Educational Review*, LXII (December, 1921), 382–91.

[91] "Teaching in an Effective College," *Association of American Colleges Bulletin*, XIII (April, 1927), 103–202.

[92] W. W. Bishop, "The Contribution of the Library to College Teaching," *Association of American Colleges Bulletin*, XIV (November, 1928), 437–41.

Silas Evans, "The Contribution of the Library to Effective Teaching," *The Effective College*, chapter xiii. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

Crawford's discussion of use of the library is organized around thirty-eight helpful suggestions.[93]

1. Get acquainted with the different departments in the library.
2. Get acquainted with the scheme of call numbers used by your library.
3. Get acquainted with library regulations, and follow them.
4. Make a definite study of the art of using a library properly.
5. Get accurate and definite references.
6. Make use of prepared book lists instead of compiling your own.
7. Locate references by means of bibliographies in textbooks.
8. Use the card catalogue to find books that are in the library.
9. Use the *United States Catalogue* to find what books have been published on your topic.
10. Use the *Reader's Guide* to find periodical material of general interest.
11. Use the *International Index* to find periodical material of a more specialized type than is listed in the *Reader's Guide.*
12. Find out what special-subject indexes are available, and how to use them.
13. Learn how to make a complete bibliography, as well as a working bibliography.
14. Select good books in advance, and keep a waiting list.
15. Learn how to use encyclopaedias.
16. Make use of stack privileges, if possible.
17. Practice the art of finding material within a book.
18. Practice the art of skimming and skipping.
19. Make a thorough acquaintance with the library books you use, and remember them.
20. In making up a working bibliography, list more titles than you will need, and choose the best.
21. Judge the value of materials before reading them.
22. Ask the librarian for assistance in finding material.
23. Use the city or public library to supplement the school library.
24. Read works that represent many different viewpoints.
25. Read several short treatments of a subject, as well as one long treatment.

[93] C. C. Crawford, *The Technique of Study*, chapter x. Boston: Houghton Mifflin Co., 1928.

26. Use materials from periodicals instead of depending on books alone.
27. Keep up with current and recent publications.
28. Use the library for contact with original sources of information.
29. Divide up the references or topics among the class and let each student work on a different one.
30. Work on definite topics instead of merely reading at random.
31. Do something with what you read in the library.
32. Take notes on materials studied.
33. Help to increase the supply of books.
34. Help to increase the number of persons which a given supply of books can serve.
35. Give library books proper physical care.
36. Help to make the library a place for study.
37. Use the library as a study place even when you are not using library books.
38. Spend your leisure time in library reading.

A number of discussions which treat library problems more from the point of view of the librarian than of that of the teacher and student should prove helpful. Charters presents an analysis of the questions reference librarians are called upon to answer and suggest training desirable for reference librarians.[94] English discusses the library reading of college students and reports data on the amount of reading done in the various fields of learning.[95] Mierow includes cuts and floor plans in his treatment of the building in which the library is housed.[96] Robertson discusses standards, costs, books, reference volumes, periodicals, the librarian, etc., with concrete

[94] W. W. Charters, "College Preparation for Reference Work," *School and Society*, XXVII (February 4, 1928), 150–2.

[95] Ada J. English, "A College Librarian's Philosophy of Education," *School and Society*, XXVII (June 9, 1928), 671–8.

[96] C. C. Mierow, "The Library Building for a Liberal Arts College," *Association of American Colleges Bulletin*, XIV (April, 1928), 198–215.

examples and illustrations.[97] Certain other publications should be of especial interest to librarians and administrators.[98]

A number of useful discussions of procedures in reading textbooks and supplementary assignments are available. Parker's treatment of the use of books is concerned with textbooks, supplementary reading, and reports.[99] Brown's emphasis is on library techniques.[100] The writer has made available elsewhere discussions of educational terminology,[101] evaluation of professional writings,[102] and textbook and supplementary reading assignments.[103] Crawford's treatment of the use of textbooks includes consideration of twenty-six points

[97] D. A. Robertson, "The College Library," *Educational Record*, X (January, 1929), 3–28.

[98] G. A. Works, *College and University Library Problems.* Chicago: American Library Association, 1927. Pp. xii + 142.

Dorothy A. Plum, *A Bibliography of American College Library Administration*, 1899–1926. New York State Library Bulletin, No. 77. Albany: University of the State of New York Press, 1926. Pp. 84.

Tse-Chien Tai, *Professional Education for Librarianship.* New York: H. W. Wilson Co., 1925.

Marion Horton, "The Use of Texbooks and References in Library School Teaching," *Journal of Educational Method*, VIII (February, 1929), 286–91.

C. P. Baber, "The Mission of the Normal School and Teachers College in the Training of School Librarians," *Education*, XLIX (April, 1929), 459–64.

[99] S. C. Parker, *Methods of Teaching in High Schools*, chapter xvii. Boston: Ginn and Co., 1920.

[100] Zaidee Brown, *The Library Key:* An Aid in Using Books and Libraries. New York: H. W. Wilson Co., 1928. Pp. vi + 84.

[101] Carter V. Good, *How to Do Research in Education*, chapter iii. Baltimore: Warwick and York, 1928.

[102] *Ibid.*, chapter x.

[103] Carter V. Good, *The Supplementary Reading Assignment.* Baltimore: Warwick and York, 1927. Pp. xiv + 228.

which are well worth the attention of teachers and students.[104]

1. Own your own textbook.
2. Take your book to class and use it.
3. Keep your textbook after the course is finished.
4. Get acquainted with the author.
5. Do not accept as the truth everything that appears in textbooks.
6. Study with a view to finding the sequence and the organization of the main points.
7. Revise and supplement the text.
8. Study subject units rather than page units.
9. Organize your reviews around the textbook.
10. Supplement intensive textbook study with extensive reading.
11. Take advantage of the various special parts of the book.
12. Make full use of maps, charts, pictures, and tables.
13. Utilize the typographical aids to clarify the thought.
14. Employ intensive methods on difficult parts.
15. Make some kind of application of the material.
16. Vary the procedure, instead of merely reading the lesson over and over.
17. Mark and underline the textbook.
18. Outline the text as a method of studying it.
19. Study the text to find solutions for previous problems.
20. Recite the lesson to yourself.
21. Study the text orally in certain cases.
22. Use the text in certain cases for drill purposes.
23. Follow up class work by further study in the text.
24. When in difficulty study the same lesson in two different textbooks.
25. Get study-suggestions for the particular lesson from the teacher.
26. Increase your speed of reading.

Reading of College Students.—Stone concludes that the silent reading ability of college students may be improved markedly, even in the case of the best readers.

[104] C. C. Crawford, *The Technique of Study*, chapter iv. Boston: Houghton Mifflin Co., 1928.

Also see W. F. Book, *Learning How to Study and Work Effectively*, chapter xvii. Boston: Ginn and Co., 1926.

He states that the typical college student may readily increase his silent reading ability from 50 to 100 per cent.[105] Albright and Horning present an analysis of the reading disabilities of 1,053 college entrants.[106] Book discusses deficiencies in reading, relation between reading and academic success, need for remedial instruction, and results of an experiment with four groups of students made to improve reading ability.[107] He concludes that the reading efficiency of two groups of students in how-to-study classes was improved 102 per cent and that in individual cases the increase was as much as 250 per cent. Book recommends that the reading ability of college freshmen be determined accurately and special remedial instruction given in an orientation or how-to-study course to those who are deficient.

Gray's summary of reading investigations[108] and the annual supplements published in spring numbers of the *Elementary School Journal* are indispensable in keeping pace with experimentation in this field. Judd and Buswell discuss the effect on reading habits of changes in the content and purpose of reading, distinguish analytical study from reading, and describe characteristic eye-movements in reading foreign languages.[109] Bus-

[105] C. W. Stone, "Improving the Reading Ability of College Students," *Journal of Educational Method*, II (September, 1922), 8–23.

[106] Beatrice F. Albright and Floy Horning, "Typical Reading Disabilities of College Entrants," *California Quarterly of Secondary Education*, III (January, 1928), 166–9.

[107] W. F. Book, "How Well College Students Can Read," *School and Society*, XXVI (August 20, 1927), 242–8.

[108] W. S. Gray, *Summary of Investigations Relating to Reading.* Supplementary Educational Monographs, No. 28. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 276.

[109] C. H. Judd and G. T. Buswell, *Silent Reading: A Study of the Various Types.* Supplementary Educational Monographs,

well's study of the reading of foreign languages is of interest to workers in this field and to the student of education.[110] He concludes that the direct method of teaching produces satisfactory reading habits, while the translation method produces habits that indicate mental processes of deciphering rather than reading. The data indicate no significant differences in the reading of French, German, and Spanish; in the case of Latin progress is slower, probably due to the method used. Bond emphasizes wide reading in the foreign languages and presents data on the type and amount of material read in junior-college classes at the University of Chicago.[111]

Kimball describes the method used by Smith College students in keeping a record of their readings in a sociology class.[112] Beyer suggests a list of seventy books for reading in a general-reading course which he discusses.[113] Harvard provides opportunity for rather extensive reading at two periods during the year when lectures and tutoring are suspended.[114]

Possibly Lyman's summary of investigations relating to grammar, language, and composition should be men-

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No. 23. Chicago: Department of Education, University of Chicago, 1922. Pp. xiv + 160.

[110] G. T. Buswell, *A Laboratory Study of the Reading of Modern Foreign Languages.* Vol. II of the Modern Foreign Language Study. New York: Macmillan Co., 1927. Pp. xii + 100.

[111] O. F. Bond, "Reading for Language Power," *Modern Language Journal,* X (April, 1926), 411–26.

[112] E. P. Kimball, "The Student Makes His Own Bibliography," *School and Society,* XXVIII (August 11, 1928), 174–7.

[113] T. P. Beyer, "A College Course in General Reading," *English Journal,* XII (June, 1923), 377–83.

[114] "Periods of Reading without Instruction in Harvard College," *School and Society,* XXV (March 12, 1927), 308–9.

tioned because of the relation between these fields and reading.[115]

Intensive or Textbook versus Extensive or Supplementary Reading.—The writer has reported elsewhere the results of a series of experiments conducted to determine the respective merits of textbook and supplementary reading materials and methods.[116] The conclusions are applicable at the college, secondary, and upper-elementary levels. The application of the results to school procedure may be stated briefly at this time, although space is not available for presentation of the data upon which the conclusions are based.[117] The results of the investigation indicate that the character and length of reading assignments should vary with the purpose of the reading. If a high degree of accuracy and a mastery of detailed informational facts are desired, a relatively brief and definite reading assignment should prove effective. If breath and range of information are the aims, the basal text should be supplemented by rather extensive reading assignments. Ordinarily, an appropriate combination of limited text assignments and supplementary materials should produce good results in terms of range and accuracy of information.

The high-school or college teacher of history, or of any other subject involving considerable reading material, who requires his students to follow a single text religiously, without the introduction of supplementary or parellel reading material, is limiting the mental horizon of the class group. The factual information of one text may

[115] R. L. Lyman, *Summary of Investigations Relating to Grammar, Language, and Composition.* Supplementary Educational Monographs, No. 36. Chicago: Department of Education, University of Chicago, 1929. Pp. viii + 302.

[116] Carter V. Good, *The Supplementary Reading Assignment.* Baltimore: Warwick and York, 1927. Pp. xiv + 228.

[117] *Ibid.*, chapter xvi.

have been mastered in its minutest details, but breath or range of information in all probability will be lacking. On the other hand, the teacher who follows no text outline or definite organization of the minimum essentials involved, but makes the course a series of more or less unrelated readings, is likely to leave the class with hazy ideas regarding the school subject in question. As has been suggested, a desirable combination of the two types of materials seem desirable. However, if only one type of material can be used, supplementary or extensive reading is preferable.

What has been said of reading for informational purposes applies equally to reading for the purpose of solving problems. A well-organized basal text should give a certain definite body of factual information, and wide extensive reading should furnish a breath of information which enables the student to interpret and evaluate unfamiliar problem situations. Again it may be stated that an appropriate combination of extensive and intensive reading is desirable for general purposes.

The class which is seeking to determine whether the United States should produce its own sugar will probably find a limited amount of information in the geography text used, but will need to do supplementary reading in order to get an adequate answer to the geographic, economic, and climatic issues involved in the solution of the problem. The pupil who seeks to explain the westward movement in history is benefited by doing supplementary reading which bears on the geographic, economic, political, and social problems involved. The boy who is building a radio gets a working plan or a "skeleton outline" from reading a concise statement of the steps to be followed or the principles involved; more extended reading of additional material on the subject provides him with the necessary illustrations, explana-

tions, and amplifications. Whether one is seeking to work out an abstract problem in a particular school subject, or a practical issue in everyday life, a reasonably wide amount of reading seems highly beneficial in the intelligent solution of the given problem situation.

An investigation of outlining indicated that an expanded rather than a condensed treatment of a given topic caused the relationships involved to stand out more clearly in the mind of the reader. Such results should have some significance for writers of textbooks and school people in general. However, the explanatory sentences, paragraphs, and illustrations in an extended treatment of a topic must be clear-cut and definite; the organization of the entire discussion should be logical and coherent. No doubt a very brief, condensed treatment of a given topic such as is found in an encyclopedia is superior to an extended, but rambling and incoherent, discussion of the same topic. Such conclusions would not favor the exclusive use of a syllabus or course outline as a means of showing the student the relative values involved in the subject matter studied. Such a statement does not mean that an effective combination of concise summaries and extended supplementary discussions is undesirable. Certain textbook writers have made very effective use of chapter summaries, chapter outlines, introductory paragraphs, transitional statements, topical and paragraph headings, illustrations, and concrete applications of principles involved, as means of showing to the reader the relationships and relative values of the various topics discussed.

When reproduction of ideas is the aim of reading a relatively small amount of material studied intensively gives virtually as good results as extensive reading. Since reading assignments are usually made for a variety of purposes, intensive reading should not be employed

exclusively because of its value in terms of reproduction of ideas. The superiority of extensive reading along other lines more than offsets any limitations it may have in terms of reproduction of ideas.

In the event that the teacher wishes the pupil to reproduce in minute detail the specific ideas contained in a reading assignment, intensive analytical reading and a limited amount of material are necessary; too frequently this procedure has been followed in school work, to the lasting injury of the pupil's interests and reading habits. For general purposes, extensive reading procedures and materials seem desirable; even in terms of the number of ideas reproduced the results are not unfavorable to the use of supplementary materials and rapid, extensive reading procedures.

If permanency of retention is desired, reproduction of ideas proves a rather uneconomical aim of reading. Retest scores show a marked decrease in the number of ideas reproduced as compared with the original scores. Range and accuracy of information and the application of knowledge to problem situations are relatively economical aims of reading as measured by permanency of retention. In general, as measured by retention, extensive reading proves superior to intensive reading.

Such results seem seriously to question the popular notion that slow deliberate reading or repeated rereading of a limited body of material is synonymous with unusual powers of retention. Even in the matter of permanency of retention, extensive reading of supplementary materials, in preference to analytical study of a single textbook, is urged in school practice. Probably the teacher may expect the retention of a series of ideas in approximately the same form as listed by an author to be much less permanent than is the retention of general information or problem-solving procedures. In other words, the

pupil who virtually memorizes the textbook material, in the course of time, will have left as the results of his efforts, a much less desirable quantity than the pupil who has covered a wide range of material in order to enrich his general fund of information and to apply the knowledge gained to the solution of problem situations. Of course, if a given type of school work necessitates the memorizing of a definite body of material, the intensive reading and analytical study of a limited amount of material are desirable. An example of such a situation is the memorization of a selection in prose or poetry. However, in most instances, supplementary reading materials and extensive reading methods seem highly desirable.

The single rapid reading is probably superior to two or more rapid readings or to one careful reading in terms of due economy of time and effort in relation to degree of comprehension. A pupil should secure infinitely more benefit, in terms of a general fund of information and interests developed, from reading rapidly through an interestingly written geographical reader of three hundred pages that deals with the continent of Africa, than to spend the same amount of time, say two weeks, in poring repeatedly over the usual treatment of Africa to be found in the traditional geography text. School children often secure a large fund of information and greatly enhanced interest in history from rapid reading of historical novels and biographical stories that deal with a given period, such as the Revolutionary War, as contrasted with the stifled interest and narrow range of information resulting when the textbook treatment of the same period must virtually be memorized through repeated rereading in order to please an exacting teacher. A high-school pupil's appreciation of Shakespeare will be more highly developed by reading six plays in six weeks than by spending the same amount of time in "rehashing," dissecting, and analyzing one play.

Certain of the conclusions of this study indicate the desirability of investigating the problem of ability grouping and differentiated reading assignments. Possibly the lower groups will profit more from reading a fairly limited body of material which presents the minimal essentials of the topics treated. It seems probable that the lower groups in intelligence will do better work on informational questions based on such definitely limited assignments than in comprehending situations which introduce new elements or which involve the exercise of judgment in solving problems. The more intelligent groups should secure distinct values from extensive reading assignments. Students might well be grouped according to mental ability for purposes of differentiating reading assignments, as well as for general purposes of instruction. No doubt the limited textbook assignment which covers the minimal essentials of the topic under discussion is far more appropriate for those of low ability than for the upper groups. The brighter students should have an opportunity to go beyond this limited assignment and thus enrich their knowledge of the subject. Such statements do not mean that the lower groups in ability should do no supplementary reading whatever. However, they are probably lacking in the speed of reading, degree of comprehension, power of organization, and power of concentration prerequisite to the mastery of any considerable body of supplementary material.

Reviewing.—A number of the principles listed in chapter v apply in the case of reviewing or preparing for an examination. Books by Waples[118] and Book[119]

[118] Douglas Waples, *Procedures in High School Teaching*, chapter xix. New York: Macmillan Co., 1924.

[119] W. F. Book, *Learning How to Study and Work Effectively*, chapter xix. Boston: Ginn and Co., 1926.

include helpful chapters on reviewing and memorizing respectively. Ullrich used sections of an elementary psychology class to determine whether it was better for the instructor to review the previous day's lesson by giving a ten-minute summary or to require the students to answer the instructor's questions.[120] He reports no material advantage of either method over the other, but suggests that the former may present a well-rounded summary of the previous day's work, while the latter method may stimulate more the mental activity of the students. Pyle's treatment of the psychology of learning is valuable for its discussions of principles of economy in learning and the retention of experience.[121] Crawford lists, with brief explanations, twenty-eight items which he considers important in reviewing.[122]

1. Do not neglect reviewing because of the general disapproval of cramming.
2. Review for other purposes than getting good grades.
3. Review in the way you are to be tested.
4. Have the review involve new learning.
5. Direct the review in some measure to the places where you are weakest.
6. Make the review original thinking, as well as assimilation of the thoughts of others.
7. Review to establish coherence and continuity between parts of the course.
8. Review by organizing previous knowledge.
9. Make the review in part a process of checking and verification.
10. Let review procedure and study procedure be different.

[120] O. A. Ullrich, "An Experimental Study of Methods of Reviewing the Lesson of the Previous Day," *Journal of Educational Research*, XVII (March, 1928), 211–4.

[121] W. H. Pyle, *The Psychology of Learning* [revised and enlarged], chapters iii–v, vii. Baltimore: Warwick and York, 1928.

[122] C. C. Crawford, *The Technique of Study*, chapter xii. Boston: Houghton Mifflin Co., 1928.

11. Review the subject, using a different classification from that by which it was originally studied.
12. Review both as to pattern and as to the separate threads.
13. Review for main points rather than for details.
14. Review by condensing what you know.
15. Review by making an outline of the course.
16. Review by solving problems which involve the material treated in the course.
17. Use the chapter exercises in the textbook for reviewing.
18. Use review questions as guides when they are available.
19. Review for definite purposes.
20. Test or measure yourself as you review.
21. Facilitate review by means of the original method of studying.
22. Review by taking advanced courses in the same field.
23. Employ review methods which involve visualization.
24. Review by means of previous notes.
25. Employ group reviewing with discretion.
26. Some reviewing should be largely drill.
27. Review by consulting new sources.
28. Review both at short and at long intervals.

Use of Time and Planning Work.—Goldsmith and Crawford had one hundred college students keep a record of the way their time was spent for seven consecutive days.[123] The average expenditure of time reported, grouped under large divisions and expressed in hours and minutes, was as follows: sleep, 8:20; recreation, 3:45; study, 3:00; classes, 2:50; meals, 1:35; personal, 1:25; travel, 1:05; work 1:00; and miscellaneous, 1:00. Wade presents comparative data on the distribution of students' time when engaged in concentrated student teaching and when pursuing the regular courses of the teacher-training curriculum.[124] Crow reports a study of the

[123] A. G. Goldsmith and C. C. Crawford, "How College Students Spend Their Time," *School and Society*, XXVII (March 31, 1928), 399–402.

[124] N. A. Wade, "Comparison and Distribution of Student-Teachers' Time," *Educational Administration and Supervision*, XIV (December, 1928), 657–63.

value of extra-classroom study in learning educational psychology.[125] Charters and Waples[126] and Ayer[127] made analyses which indicate respectively the activities engaged in by teachers and school administrators, although exact distribution of time is not shown. Book has prepared a series of valuable chapters on planning one's work, job analysis of the tasks to be performed, making an effective schedule, working according to a schedule or written plan, dispatching the schedule or plan, and making conditions favorable for effective work.[128]

Provision for Individual Differences

Individual Differences and Individualized Instruction.—The nature and extent of individual differences have been discussed by various writers on numerous occasions and should require no comment at this time. Reference may be made to certain bibliographies and treatments of individual differences which will provide a background for the reader who has not followed closely the literature in this field.[129] Odell's bibliography

[125] Lester Crow, "The Comparative Value of Extra-Classroom Study in the Learning of Educational Psychology." Unpublished Doctor's thesis, New York University, 1927.

[126] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study.* Chicago: University of Chicago Press, 1929. Pp. xx + 666.

[127] F. C. Ayer, "The Duties of Public-School Administrators," *American School Board Journal,* LXXVIII (February, 1929), 39–41, 137–8.

[128] W. F. Book, *Learning How to Study and Work Effectively.* Part III. Boston: Ginn and Co., 1926.

[129] C. W. Odell, *An Annotated Bibliography Dealing with the Classification and Instruction of Pupils to Provide for Individual Differences.* University of Illinois Bulletin, Vol. XXI. No. 12. Urbana, Illinois: University of Illinois, 1923. Pp. 50.

covers the period from 1868 to 1923, while the yearbook referred to also includes a helpful bibliography. It will be recognized that certain studies and discussions mentioned in chapter iv under the headings of project techniques, laboratory methods, and part-time and field methods in the organization of the curriculum are also examples of the individualization of instruction or of adjustment of curriculum and method to individual needs, interests, and capacities. At this time a number of current attempts to provide for individual differences will be summarized briefly: individualized instruction, provision for the exceptional or gifted student, ability grouping, the tutorial system, honors courses and special reading, and miscellaneous types of adjustment to individual differences and reorganizations such as are found in the experimental colleges.

Lessenger's experiment has been described in this chapter under the heading of the project method.[130] James describes the use of the Dalton plan for individualization of instruction in an education class composed of college juniors.[131] Stockwell also reports the application of the Dalton plan in a class in the history of education.[132] Assignments were made on four levels,

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C. W. Washburne and Others, *Adapting the Schools to Individual Differences.* Twenty-Fourth Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1925. Pp. xiv + 364.

R. S. Ellis, *The Psychology of Individual Differences.* New York: D. Appleton and Co., 1928. Pp. 534.

[130] W. E. Lessenger, "An Experiment in Individualized Instruction on the College Level," *Studies in Education*, pp. 36–41. Yearbook Number XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

[131] H. W. James, "The Dalton Plan Tested in College," *School Review*, XXXIV (April, 1926), 303–6.

[132] S. S. Stockwell, "Normal School Experiment with the Dalton Plan," *Education*, XLVI (September, 1925), 12–7.

according to the ability of the students to do the work. Wilson states the advantages of the Dalton laboratory plan for training teachers in service.[133] Scheidemann compared the merits of the lecture-conference method and individualized instruction, and found the two methods of equal effectiveness in teaching elementary psychology.[134] A current yearbook includes a helpful summary of plans for the individualization of instruction at the college level.[135] Kelly describes plans for individual study in operation at Grinnell, Stanford, Reed, Minnesota, and Smith; such methods are really provisions for the benefit of the exceptional or superior student.[136]

A few other variations of individual methods of instruction should be mentioned. Weber includes outlines of certain units taught in a treatment of the unit-contract system of teaching biology.[137] Miller and Johnson use French and geometry to illustrate their conception of the mastery of definite units of work, the number of units to depend on the ability and industry of the individual student.[138] Stephens discusses at length individ-

[133] Lucy L. W. Wilson, "A Method of Training Teachers in Service, the Dalton Laboratory Plan," *Educational Administration and Supervision*, XIV (February, 1928), 117–22.

[134] N. V. Scheidemann, "A Comparison of Two Methods of College Instruction," *School and Society*, XXV (June 4, 1927), 672–4.

[135] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapter vii. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

[136] F. J. Kelly, *The American Arts College*, p. 89. New York: Macmillan Co., 1925.

[137] Lynda Weber, "The Use of the Unit-Contract System in Teaching Biology," *School Science and Mathematics*, XXVIII (April, 1928), 399–413.

[138] H. L. Miller and Dorothy Johnson, "Directing Study for Mastery," *School Review*, XXX (December, 1922), 777–86.

ual instruction in English composition.[139] Maxwell reports the practice in sixty-four higher institutions in adapting their work to the needs of freshmen. The study includes detailed data concerning freshman week, student advisers, ability grouping, outside activities, student reports, training and experience of faculty members, and organization of freshman courses.[140]

The Gifted or Superior Student.—In a summary of reports relating to general reading for undergraduates, the viewpoint expresssed in the 1929 yearbook of the National Society of College Teachers of Education is that such reading is frequently done in connection with honors work and as such stimulates the more able students to work up to capacity.[141] In this yearbook are summarized the plans for general reading in operation at Columbia, Smith, Harvard, Princeton, Amherst, Rutgers, and Hamline. Naturally, such reading programs result in comprehensive examinations covering the reading done.

Seashore discusses the gifted student in terms of ability grouping, honors courses, individual work, early contact with mature teachers, flexible time requirement for graduation, and comradeship.[142] Stewart summarizes previous efforts to meet the needs of the superior student and outlines an additional plan.[143] Terman[144] and

[139] S. D. Stephens, *Individual Instruction in English Composition.* Cambridge, Massachusetts: Harvard University Press, 1928. Pp. 150.

[140] C. R. Maxwell, "Methods by Which Institutions of Higher Learning Adapt Their Work to the Needs of Freshmen," *North Central Association Quarterly,* II (December, 1927), 307–28.

[141] W. S. Gray and Others, *op. cit.*, chapter vii.

[142] C. E. Seashore, "The Gifted Student and Research," *Science,* LVI (December 8, 1922), 641–8.

[143] G. W. Stewart, "A Problem in the Education of Students of Superior Ability," *School and Society,* XIV (November 19, 1921), 439–47.

[144] L. M. Terman, "The Independent Study Plan at Stanford University," *School and Society,* XXIV (July 24, 1926), 96–8.

Robinson[145] describe the independent study plan at Stanford, which is intended to encourage the exceptional student to work up to his capacity. Robinson states the essential features of the plan as follows:[146]

> Any student whose university record is of a "B" average or above, or who is deemed by his school or department as specially qualified may, with the consent of the school or department, enroll under the Independent Study Plan at the beginning of the junior year, or at the beginning of any quarter thereafter. The plan of study shall be arranged with the intention of providing a program of work both more comprehensive and more intensive than that of the average student, calling for greater initiative, more self-direction, a higher type of thinking, and leading to a comprehensive final examination or examinations. Some faculty member of the school or department shall be special adviser of the student. The student shall be checked up in his work through reports, theses, discussions and conferences with the adviser, or, and to the extent that may be determined, through meeting the regular tests in particular courses. The degree credit for the period of study under the Independent Study Plan shall be determined and awarded on the basis of the final examination or examinations.

Coffin describes a program of directed reading for the superior student and the project plan which are in operation at Whittier College.[147] He considers the project an independent study plan as well as an honors course, although it differs from the independent study plan in that the ground covered is much wider, embodying a group of related subjects. It differs from the honors course in that the grouping of subjects to be studied is more flexible and involves a career motive on the part of the student. Flexner makes a plea for greater freedom

[145] E. E. Robinson, "The Independent Study Plan at Stanford University," *Association of American Colleges Bulletin*, XIV (November, 1928), 431–6.

[146] *Ibid.*, 433.

[147] J. H. Coffin, "How We Teach at Whittier," *Association of American Colleges Bulletin*, XIV (November, 1928), 425–30.

on the part of able students and suggests that some modification of the English pass and honors classification of students be worked out as a substitute for our ordinary American practice.[148]

Honors Courses.—Since excellent descriptions of honors courses are available, it seems inappropriate at this time to give more than a brief statement of this method of providing for the needs of superior students. A number of references will be cited from which the reader can secure an adequate account of the variations of the plans in use in different colleges.

Special recognition should be given the summary of reports relating to honors courses in the 1929 yearbook of the National Society of College Teachers of Education.[149] From this summary one learns that in the autumn of 1927 at least 150 out of a total of six hundred colleges were working on an honors-course program. A few other statements from this summary are of interest. Honors plans in use may be classified into three groups: (1) honors based on average marks received in regular courses, (2) honors based on special work undertaken in addition to the regular program, and (3) honors based on work superseding the regular program. Three essential elements of a system of honors courses are listed as: (1) a selection of the best students, (2) a more rigorous course of study for them than is provided in the typical curriculum, and (3) the greatest possible freedom of work consistent with adequate supervision. The advantages of the plan at Swarthmore are stated as follows: (1) the honors system has considerably lengthened the average day's work of honors students, (2)

[148] Abraham Flexner, *A Modern College and a Modern School.* Garden City, New York: Doubleday, Page and Co., 1923. Pp. xviii + 142.

[149] W. S. Gray and Others, *op. cit.*, chapter vii.

every honors student who expects distinction reads regularly during vacations, (3) following the example of honors students many of those not reading for honors read also during vacations, (4) the adoption of the honors plan has increased the number of students who could go on with graduate study, and (5) an overwhelming majority of the honors graduates are strongly in favor of the honors plan. Of course a final comprehensive examination is an essential part of the honors plan.

The reader who wishes further details concerning honors work will find a number of helpful discussions available.[150]

[150] Frank Aydelotte, *Honors Courses in American Colleges and Universities.* Bulletin of the National Research Council, Vol. VII, No. 40. Washington: National Academy of Science, 1924. Pp. 58.

R. C. Brooks, *Reading for Honors at Swarthmore.* New York: Oxford University Press, American Branch, 1927. Pp. viii + 196.

R. C. Brooks, "Honors Courses at Swarthmore College," *The Effective College*, chapter xiv. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

A. L. Barrows, "Studying for Honors in American Colleges and Universities," *School and Society*, XIII (April 9, 1921), 432–4.

Murray Bartlett, "How to Encourage Scholastic Achievement—A Suggested Technique," *Association of American Colleges Bulletin*, XIV (April, 1928), 171–9.

G. R. Havens, "General Reading for Undergraduates: Report of Committee G," *Bulletin of the American Association of University Professors*, X (October, 1924), 480–92.

M. E. Herriott, "Why 'Honor' Engineering Students Think They Succeed in College," *School and Society*, XXVIII (December, 29, 1928), 829–30.

Gladys Palmer, "The Honors Courses Conference at the State University of Iowa," *School and Society*, XXI (June 20, 1925), 749–55.

W. C. Ryan, "Honors Courses in American Colleges," *Progressive Education*, IV (October-November-December, 1927), 260–5.

Preceptorial and Tutorial Instruction and General Examinations.—The Princeton system of preceptorial instruction is a modified form of the Oxford tutorial system. The essential elements of the plan involve attendance at one preceptorial conference each week in each course, in addition to attending two classes or lectures. Students are distributed among conference groups of from three to five men in such a way as to give homogeneity to each group. The conference is devoted primarily to discussion of the assigned reading of the course for the purpose of stimulating the intellectual interest of the student. At present Princeton limits this plan to selected courses due to the cost involved. This plan has been adopted to a limited extent at Bowdoin College.

The Harvard system of tutors also has its origin in the Oxford plan. It is different from the Princeton system of preceptorial instruction in its emphasis upon a broad program of study, a general examination, and the tutorial conference. Most of the tutorial instruction is given in individual conferences which last from one-half hour to one hour. The purpose of tutorial and

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W. F. Sanders, "Honors Work in a Small Middle-Western College," *School and Society*, XXVIII (October 13, 1928), 455–6.

Raymond Walters, "Teaching Honors Students at Swarthmore," *Association of American Colleges Bulletin*, XIV (November, 1928), 419–24.

Raymond Walters, "Learning and the Free Spirit," *School and Society*, XXVII (May 12, 1928), 549–54.

"Candidates for Honors at Harvard," *School and Society*, XXVIII (December 1, 1928), 678.

"Honors Courses in American Colleges and Universities," *School and Society*, XIX (February 16, 1924), 197–9.

"Honors or Independent Study Plans at Wisconsin and Middlebury," *School and Society*, XXIII (April 10, 1926), 450–1.

preceptorial instruction in meeting the needs of the individual student is very well expressed by Perry.[151]

> The tutorial method of instruction (including tutors, preceptors, honors, directors, etc.) is designed to achieve an educational result that may be summarized briefly as follows: the substitution of the mastery of a subject for the accumulation of credits in separate courses; intellectual initiative and independence on the part of the student; such close and informal contact between teacher and student as will, on the one hand, bring into play the personal influence of the teacher, and, on the other hand, both discover and meet the individual needs of the student.

A brief description of preceptorial and tutorial plans of instruction is available in the 1929 yearbook of the National Society of College Teachers of Education.[152] F. J. Kelly comments briefly on the Harvard tutorial plan, which he emphasizes as a part of the institution's plan of comprehensive examinations covering the student's field of concentration.[153] He states that the student's courses leave many gaps and prepare him only in part for these examinations. The tutor is expected to suggest other study supplementary to the courses and to aid the student in effective organization of the whole field. Lowell discusses the Harvard plan in terms of the general examination, tutorial instruction, and reading periods without instruction.[154] He states the objectives of the Harvard system as follows: (1) to devote more attention to the undergraduate as an individual; (2) to

[151] R. B. Perry, "The Preceptorial or Tutorial System: Report by Committee G," *Bulletin of the American Association of University Professors*, X (November, 1924), 534–62.

[152] W. S. Gray and Others, *op. cit.*, pp. 110–1.

[153] F. J. Kelly, *The American Arts College*, p. 88. New York: Macmillan Co., 1925.

[154] A. L. Lowell, "The Harvard Tutorial System," *Association of American Colleges Bulletin*, XIV (November, 1928), 364–77.

A. L. Lowell, "General Examinations and Tutors at Harvard College," *Educational Record*, VIII (April, 1927), 61–84.

treat him as a whole being; (3) to make him more largely educate himself; and (4) to provoke in him an interest in so doing. Tatlock discusses general examinations in the student's field of specialization, honors courses, and tutoring for freshmen.[155] At another time he analyzes critically the comprehensive final examination as applied in the honors system or independent study plan and in the system of general examinations for all.[156]

Ability Grouping and Sectioning of Classes.—Ullrich reports an interesting study of the effect of ability grouping on learning.[157] He found that in three classes in elementary educational psychology conducted with the use of an outline and the lecture method, and sectioned on the basis of a psychological examination, no effect on learning as measured by an objective examination was noted. When certain topics or units were enriched the upper third in ability made substantial gains over the middle and lower thirds, as did the middle third over the lower third. When the upper groups were speeded up in certain courses the work was covered in less than the usual amount of time allowed, with the advantage in favor of the upper third. Ullrich' sdetailed conclusions are as follows:

1. In the elementary course in educational psychology in the University of Texas, with the instructors that we had, and with the use of an outline and the lecture method of instruction, the sectionizing of students into three sections according to ability as

[155] J. S. P. Tatlock, "General Final Examinations and Tutors," *Educational Record*, VIII (January, 1927), 3–16.

[156] J. S. P. Tatlock, "The Comprehensive Examination," *The Effective College*, pp. 157–67. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

[157] O. A. Ullrich, *An Experimental Study of the Effect on Learning of Sectioning College Classes on the Basis of Ability.* Austin, Texas: Doctor's thesis, Graduate School, University of Texas, June, 1926. Pp. 56.

determined by means of the University of Texas Freshman Psychological Examination, has in itself no effect on learning as revealed by an objective type of examination. This conclusion was confirmed by the results of the second experiment. In this respect our study confirms the results obtained by Burtt, Chassell, and Hatch by a different method.

2. When the content of the topic of *will* in educational psychology, as taught by Instructor "X," is enriched to meet the needs of the gifted, the students in the upper third of the distribution according to the University of Texas Freshman Psychological Examination, can get 10.4 per cent more than the middle third, and 23.2 per cent more than the low third. The middle third can get 11.5 per cent more than the low third. For the topic of *interest and attention* as taught by Instructor "Y," the upper third can get 33.3 per cent more than the middle, and 48.5 per cent more than the low third. The middle third can get 11.1 per cent more than the low.

3. The students in the superior third of the mixed, or unclassified sections, can do as well on the topics *will* and *interest and attention* as the superior students of the same mental ability who are taught under the same conditions but in separate sections. The same fact holds true for the students of "middle" and "low" abilities. What effect the sectionizing of students according to mental ability as shown by the University of Texas mental test has on learning, when a method other than the lecture method is used or when other conditions are present, remains to be determined. It also remains to be determined what effect the sectionizing of students has on learning when the students are shifted from higher to lower sections and vice versa, according to the quantity and quality of work done.

4. In the course on "Methods of Teaching the Elementary Subjects," in the University of Texas, the students in the upper third of the distribution according to ability can do the work in 80 per cent of the time ordinarily allowed, when the students are speeded up and when they are taught in a classified section by Instructor "Z." Whether the students in the "middle" third of the distribution can gain time over the "low" third under a different instructor from the one used remains to be determined. In this study the "middle" section gained no time.

5. The freshmen who made A and B in English I in the winter term, when taught in a separate section by "Instructor "L," and when speeded up in the spring term, can do the work in 60

per cent of the time ordinarily allowed, and can do at least as well as the students of the same level of ability in the department who are taught the full time in mixed sections. The students in the "middle" section, those who made the grade of "C" in the work of the previous term, can do the work in 80 per cent of the time ordinarily allowed. However, these students, as taught by Instructor "M," did not do quite as well as the students of the same ability in the department as a whole. What these students can do under a different instructor and under different conditions remains to be determined.

6. In the course in Elementary Methods as taught at the University of Texas, it is immaterial whether the sectioning is done on the basis of the University of Texas Freshman Psychological Examination or on the basis of the scores made on educational psychology in the previous term's work.

Reeves and Russell include a summary of studies of ability grouping in college in their valuable bulletin.[158] The investigations summarized are concerned with: the extent of the practice of classifying students into ability groups, sectioning upon the basis of marks received, use of tests as bases for sectioning students, and the effect on learning of sectioning classes.

Seashore lists the advantages of ability grouping and objections which are sometimes offered to the plan.[159] The advantages are listed as follows:

1. Each student is kept at his highest level of achievement in order that he may be successful, happy, and good.
2. Fair standards for quantity, quality, content, and method of work are set up.
3. A fair basis for praise and blame is established.
4. Morale in the class is created.

[158] F. W. Reeves and J. D. Russell, *Some Aspects of Current Efforts to Improve College Instruction*, chapter iv. Bulletin of the Bureau of School Service, I (December, 1928). Lexington, Kentucky: Bureau of School Service, University of Kentucky.

[159] C. E. Seashore, "Sectioning Classes on the Basis of Ability," *School and Society*, XV (April 1, 1922), 353–8.

5. There is a larger output of work at all three levels.
6. It means kindness, comfort, justice, and relative efficiency for the poor student.
7. Serves as a means of discovering and encouraging the good and superior student.

The following objections are sometimes offered to the plan of ability grouping:

1. It is not the way we have been doing it.
2. It is against the democratic ideal to recognize group differences.
3. An instructor will find a poor class unbearable drudgery.
4. It is discouraging to those in the low section.

At another time Seashore reports comments from a number of institutions with respect to sectioning of classes on the basis of ability.[160] No reply conveyed any general disapproval of the plan. Maxwell presents data from sixty-four North Central institutions concerning ability grouping.[161] In answer to the question, "Are students assigned to class sections on the basis of ability or aptitude?" the replies together with frequencies are: no, 33; in some cases, 12; yes, English, 9; yes, English and mathematics, 2; yes, English and chemistry, 1; yes, mathematics, 1; limited way, 1; not in freshman courses, 1; yes, 1; no answer, 3. Laird's study of the scholastic accomplishment of 2,700 students in elementary psychology is concerned with the performance and intelligence of 9 and 11 o'clock sections over a period of years.[162] Miller reports two experiments made in the

[160] C. E. Seashore, "Comments on the Plan for Sectioning Classes on the Basis of Ability," *School and Society*, XVI (November 4, 1922), 514–7.

[161] C. R. Maxwell, "Methods by Which Institutions of Higher Learning Adapt Their Work to the Needs of Freshmen," *North Central Association Quarterly*, II (December, 1927), 307–28.

[162] D. A. Laird, "A Study of the Influence of Sectioning Students upon Their Achievement," *Journal of Educational Psychology*, XIV (March, 1923), 143–53.

college of engineering at the University of Michigan.[163] Burtt concludes that the advantage in ability grouping is in speeding up completion of the work for the upper groups.[164] In this conclusion he agrees with Ullrich. Special mention should be made of Holt's interesting account of sectioning on the basis of achievement at West Point. He says that the plan has been in operation there for more than a hundred years.[165] It is possible only to list several additional studies and discussions of ability grouping.[166]

Other Plans to Promote Adjustment to Individual Needs and Interests, and Summary.—In the last section of this chapter a large number of plans for the adjustment of the work of the higher institution to the needs, capacities, and interests of the individual student have been described briefly. By way of summary these schemes may be recapitulated: use of committee, project, and problem techniques, as illustrated by Lessenger's

[163] H. W. Miller, "Profits Derived from Segregating Students on the Basis of Ability," *Science*, LXV (April 29, 1927), 427–9.

[164] H. E. Burtt and Others, "Proficiency of Instruction in Unselected Sections in Elementary Psychology Compared with That in Sections Selected on Basis of Intelligence Tests," *Journal of Educational Psychology*, XIV (March, 1923), 154–61.

[165] L. H. Holt, "Sectioning on the Basis of Ability," *The Effective College*, chapter xii. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

[166] H. S. Colton, "Segregation of Zoology Students on the Basis of Ability," *School and Society*, XX (August 23, 1924), 254–6.

A. E. Morgan, "Teaching Methods at Antioch," *Association of American Colleges Bulletin*, XIV (November, 1928), 397–406.

Hazel E. Schoonmaker, "The Value of the Hotz Algebra Scales in Sectioning College Classes in Freshmen Mathematics," *School Science and Mathematics*, XXVIII (November, 1928), 880–4.

C. E. Seashore, "Sectioning on the Basis of Ability: Report of Committee G," *Bulletin of the American Association of University Professors*, IX (October, 1923), 275–90.

plan at Detroit Teachers College; the laboratory or workshop plan, as practiced at Rollins College; plans which involve some aspect of cooperative or part-time procedure as found at Cincinnati and Antioch, and variations of which exist in the form of travel, field-work, apprenticeship, survey participation, interneship, student-teaching, junior year abroad, etc.; general reading as found at Harvard, Columbia, and Princeton; application of the Dalton plan or contract method; the Stanford independent study plan; honors courses, emphasized especially at Swarthmore; the Princeton preceptorial system and the Harvard tutorial plan; and ability grouping.

A few additional plans which have not been previously mentioned will be described briefly at this time. Wisconsin's experimental college involves a change in curricular organization and greater emphasis on individual instruction and group discussion.[167] The assumption is that in these first two years of college work two or three great civilizations will be studied in an attempt to secure through the literature of the people involved an understanding of the people and their world. Jacqua describes the Claremont plan which involves a group of small colleges, where the individual is not so completely lost in numbers as in the great universities.[168] Hall discusses the handling of problems of personnel and vocational guidance and the reorganization of the lower division of the arts college at Oregon.[169] Stanford offers

[167] Glenn Frank, "The Experimental College at the University of Wisconsin," *Wisconsin Journal of Education*, LIX (April, 1927), 338–40.

"Wisconsin's Experimental College," *Progressive Education*, IV (October-November-December, 1927), 306–10.

[168] E. J. Jaqua, "The Claremont Colleges Plan," *Progressive Education*, IV (October-November-December, 1927), 295–9.

[169] A. B. Hall, "Students and Courses at the University of Oregon," *School and Society*, XXVIII (September 1, 1928), 272–4.

a Doctor's degree (Ed. D.) with emphasis on either administration or teaching rather than research.[170] Southern California offers two new Doctor's degrees in education, one with emphasis on advanced professional preparation and mastery of educational principles and procedures, and the other to provide a master-teacher type.[171] The advantages of such training and degrees in meeting the needs of the worker interested in administration or teaching rather than research are evident. Holmes' concluding statement concerning the graduate degrees in education at Harvard reads as follows:[172]

> The program for the Ed. M. is an attempt to provide a coherent plan of professional training for college graduates, broad in scope, practical in its preparation for a specific form of educational service and wisely adjusted to the needs and capacities of the individual student. The program for the Ed. D. is an attempt to select those candidates who can really produce studies of substantial value and to give them proper guidance and the freedom and facilities for effective research.

The 1929 yearbook of the Department of Superintendence includes discriptions of a number of innovations and reorganizations in higher education such as plans for economy of time in the articulation of the various levels of the school system, orientation and freshman week, flexible programs, honors courses, the experimental college at the University of Wisconsin, the new medical programs at Johns Hopkins University and Yale University, etc.[173] Significant discussions of

[170] "A New Education Degree at Stanford University," *School and Society*, XXVIII (July 7, 1928), 9–10.

[171] "The School of Education of the University of Southern California," *School and Society*, XXVIII (July 21, 1928), 71–2.

[172] H. W. Holmes, "The New Requirements at Harvard for Degrees in Education," *School and Society*, XXV (June 18, 1927), 707–11.

[173] *The Articulation of the Units of American Education*, chapters xiii, xviii, xxii. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

training in pharmacy, dentistry, library service, medicine, law, and engineering are included.

Concluding Statement.—The summary statement of a chapter in the 1929 yearbook of the National Society of College Teachers of Education, which reviews studies of methods and devices to develop student interest, initiative, and responsibility, and to provide for individual differences, seems appropriate as the concluding paragraph of the last section of this chapter:[174]

> The studies that have been reviewed in this section show that the colleges are making increasing use of various measures which are designed to develop student interest, initiative, and responsibility, and to provide for individual differences. Particularly significant is the development of plans for honors courses. The plan of tutorial and preceptorial instruction, while promising, is so expensive that its wide adoption seems a matter of the distant future rather than an immediate prospect. In the meantime other plans which have been mentioned for the individualization and motivation of students' work hold much promise for the improvement of college instruction.

Supplementary References

Aydelotte, Frank. "Better Training for Our Best Minds," *School and Society*, XIV (November 5, 1921), 387–92.

Aydelotte, Frank. "Report of the Commission on Faculty and Student Scholarship," *Association of American Colleges Bulletin*, X (May, 1924), 107–15.

Barrows, A. L. "Studying for Honors in American Colleges and Universities," *School and Society*, XIII (April 9, 1921), 432–4.

Bernard, F. F., and Brooks, R. C. "Honors Courses in an Effective College," *Association of American Colleges Bulletin*, XII (May, 1926), 190–210.

Brooks, W. S. "The Rhodes Scholar's Ideal Professor," *School and Society*, XXI (March 28, 1925), 375–6.
Based on a questionnaire study of Rhodes scholars.

Burris, W. P. "Case Method for the Study of Teaching," *School and Society*, XV (February 4, 1922), 121–30.

[174] W. S. Gray and Others, *op. cit.*, p. 117.

Burris, W. P. "Case Method in the Study of Teaching," *Educational Review*, LXV (May, 1923), 280–5.

Coe, G. A. "By-Products of the College Classroom," *Religious Education*, XXIV (March, 1929), 273–9.
Points to the lack of intellectual interest on the part of students and the poor methods and practices employed in the classroom.

Colton, H. S. "Segregation of Zoology Students on the Basis of Ability," *School and Society*, XX (August 23, 1924), 254–6.

Comstock, A. "Time and the College Girl; How the College Girl Spends Her Time," *School and Society*, XXI (March 14, 1925), 326–7.
A survey made by the class in statistics at Mount Holyoke College to ascertain the distribution of students' interests and activities.

Constance, J. M., and Hanna, J. V. "An Experiment in Sectioning Freshman English," *Educational Review*, LXVII (March, 1924), 150–3.

Crawford, C. C. "The Correlation between College Lecture Notes and Quiz Papers," *Journal of Educational Research*, XII (November, 1925), 282–91.
The main purpose of this study was to determine the effect produced upon the quiz grades of college students by note-taking during lectures and by the later study or review of these notes.

Deming, H. G. "Superior Students and Score-Plus Recitations," *School and Society*, XIX (April 5, 1924), 409–10.

DeVoto, B. "College and the Exceptional Man," *Harper's*, CLIV (January, 1927), 253–60.

Dickinson, C. A. "Psychological Factors Involved in the Presentation of Class Material," *Journal of Engineering Education*, XVIII (March, 1928), 750–63.

Farrell, R. P. "Lecturer, Teacher, Which?" *School and Society*, XIX (May 24, 1924), 615–7.

Flemming, Cecile W., and Woodring, Maxie D. "Training High School Pupils in Study Procedures, with Emphasis upon Reading," *Teachers College Record*, XXX (March, 1929), 589–610.
Covers rapid reading, skimming, comprehension, outlining and summarizing, note taking, understanding and following directions, problem solving, and use of books and materials as tools for study.

Grant, E. B. "Motivating the Course in Tests and Measurements for the Teacher-in-Training," *Journal of Educational Method*, IV (January, 1925), 190–4.

Groves, J. W. "Amount of Time Student-Teachers Spend in Practice in Teaching," *Educational Administration and Supervision*, XI (September, 1925), 417–20.

Herriott, M. E. "Attitude as a Factor of Scholastic Success in College," *Journal of Educational Research*, XIX (April, 1929), 312.

Abstract of a Doctor's dissertation, University of Illinois, 1929.

Hicks, P. M. "Honors Courses in English," *English Journal*, College Edition, XVIII (March, 1929), 230–7.

Hughes, R. M., and Mann, C. R. "The Promotion of Effective Teaching," *Association of American Colleges Bulletin*, XIII (April, 1927), 144–9.

Hullihen, Walter. "Undergraduate Foreign Study for Credit Toward the American Baccalaureate Degree," *Educational Record*, V (January, 1924), 44–55.

Kerr, W. H. "The Normal School Library: An Educational Institution," *Education*, XLII (February, 1922), 367–74.

Points out the educational work of the normal school library as a means of instruction.

Kirk, J. R. "Humanizing the Instruction of College Freshmen," *Peabody Journal of Education*, IV (May, 1927), 333–6.

Lee, A. S. "Attitudes as a Factor of Teaching in Normal Schools," *Journal of Educational Sociology*, II (December, 1928), 232–8.

Lewis, W. P. "College Student and His Library," *Libraries*, XXXII (February, 1927), 91–2.

Logasa, Hannah. "The Supervision of High School Library Service," *The Supervision of Secondary Subjects*, chapter xiv. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

McAndrew, Wm. "Socialized Recitation in the University," *Educational Review*, LXX (June, 1925), 19.

MacPhail, A. H. "Classification of Freshmen at Brown University," *Journal of Educational Research*, XIV (December, 1926), 365–9.

Miller, D. S. "Antioch Idea," *Nation*, CXIII (September 7, 1921), 263.

Miller, H. L. "Preparing Teachers through Participation," *Educational Administration and Supervision*, VIII (September,

1922), 355–67.
Presents statements from the diaries of college seniors showing their favorable attitude toward participation.

Miller, H. W. "Segregation on the Basis of Ability, I," *School and Society*, XXVI (July 16, 1927), 84–8.
Gives methods used and discusses need for segregation.

Miller, H. W. "Segregation on the Basis of Ability, II," *School and Society*, XXVI (July 23, 1927), 114–20.
Discusses characteristics of students; includes charts showing graphically the results by semesters in sections after and before segregation on basis of ability.

Morgan, J. E. "Library and the Learning Process," *Library Journal*, LI (February 1, 1926), 127–8.

Nixon, E. W. "Reading for Honors," *School and Society*, XXIII (June 19, 1926), 784–5.

Nolan, A. W. *Techniques Used in Dealing with Certain Problems of College Teaching*. University of Illinois Bulletin, Vol. XXVI, No. 40. Urbana, Illinois: University of Illinois, 1929. Pp. 26.

Paul, A. G., and Bliss, H. H. "Cooperative Part-Time Work in the Junior College," *The Junior College*, pp. 141–54. Edited by W. M. Proctor. Stanford University, California: Stanford University Press, 1927.

Pisek, F. P. "Reading Habits of the College Girl," *Review of Reviews*, LXXIII (February, 1926), 171–4.

Pressey, S. L., Pressey, L. C., and Others. *Research Adventures in University Teaching*, Problems xv, xvii. Bloomington, Illinois: Public School Publishing Co., 1927.
Accounts of investigations to determine an appropriate reading load for a class in educational psychology and suitable methods of teaching and of an attempt to socialize classroom procedure in a class of seventy-one students in elementary psychology.

Rice, J. A., Jr. "Exceptional Student in the Middle West," *School and Society*, XXII (October 31, 1925), 543–7.

Rockwell, L. L. "Honors Courses in English in American Colleges," *English Journal*, XV (May, 1926), 336–43.

Russell, C. "The Attainment of Mastery in Courses in Education," *Educational Administration and Supervision*, XI (March, 1925), 188–98.

Sandwick, R. L. *Study and Personality:* A Textbook in Educational Guidance. Boston: D. C. Heath and Co., 1929. Pp. xxii + 228.

Schutte, T. H. "Distribution of Time of Student-Teachers in a State Teachers College," *Educational Administration and Supervision*, VIII (April, 1922), 215–22.

Seashore, C. E. "Recognition of the Individual," *Science*, LX (October 10, 1924), 321–5.

Smith, G. E. P. "Scrambling the Honors," *School and Society*, XVI (August 5, 1922), 159–60.

Spiller, R. E. "Pre-Honors Courses," *English Journal*, XV (September, 1926), 499–506.

Terman, L. M. "Adventures in Stupidity; a Partial Analysis of the Intellectual Inferiority of a College Student," *Scientific Monthly*, XIV (January, 1922), 24–40.
Presents a case study of an individual of below average ability who entered Stanford University; results of his reactions to the Binet tests are given with psychological explanations for failures; a discussion, "The Psychology of Stupidity," follows with suggested occupations possible for one of this mental level.

Tharp, J. B. "How Shall We Section Beginning Foreign Language Classes?" *Modern Language Journal*, XIII (March, 1929), 433–49.

Thwing, C. F. "Superior Student in the College," *School and Society*, XXII (September 19, 1925), 345–50.

Townsend, H. G. "Discovery and Education of the Gifted," *School and Society*, XXIII (January 30, 1926), 132–6.

Troth, D. C. "A Ten-Minute Observation in the Library," *School and Society*, XXIX (March 9, 1929), 336–8.

Upham, A. H. "The Art of Teaching," *School and Society*, XXVIII (December 22, 1928), 769–74.
A discussion of the historical development of teaching ideals and traditions at Miami University.

Wade, I. W. "Construction and Use of Models in Chemistry," *Journal of Chemical Education*, V (February, 1928), 193–6.

Wade, N. A. "A Comparison of the Time Spent by First-Year Students and Expected by Teachers in a State Normal School," *Journal of Educational Research*, XIX (March, 1929), 183–7.

Wade, N. A. "A Technique for Teaching Educational Measurements," *Educational Administration and Supervision*, XIII (May, 1927), 342–4.
Describes a plan used at the Frostburg State Normal School (Maryland).

Waples, Douglas. "A Device for the Student Teaching Conference," *Educational Administration and Supervision*, X (December, 1924), 564–7.

Wasson, P. W. "Methods for Promoting Ideals of Scholarship among Average Students," *National Education Association Addresses and Proceedings*, 1922, pp. 745–9.

Wierard, C. M. "Radio in Education," *Education*, XLV (April, 1925), 483–8.

Included in the article is a very brief account of radio education in higher institutions—suggests supplementing regular classroom work by radio lectures.

Wright, H. "The Special Honors Plan at Smith College," *National Education Association Addresses and Proceedings*, 1922, pp. 750–2.

Wynne, J. P. "The Development of Educational Method," *Educational Administration and Supervision*, XV (March, 1929), 161–74.

"Broader Priveleges to High-Grade Students," *School Review*, XXXI (March, 1923), 162–5.

"Doubtful Value of Lectures in University Education," *New Statesman*, XX (October 7, 1922), 8–9.

"Honors Courses," *School and Society*, XIX (March 1, 1924), 259–60.

"Honors Plan at Hobart College," *School and Society*, XVII (June 9, 1923), 630.

Chapter VII

MEASUREMENT AND GUIDANCE IN HIGHER EDUCATION

Introduction.—A discussion of measurement of achievement follows logically after consideration of the problems of objectives, selection and organization of subject matter, psychology of learning, and method. However, a number of related issues which involve phases of measurement and guidance should be considered in this chapter. For example, certain aspects of psychological testing and personnel work have a pertinent bearing on academic performance and the measurement of scholastic achievement. Therefore, it seems appropriate to consider a rather diversified group of problems in measurement and guidance in one chapter rather than in two or three separate chapters. The following topics will receive attention: college entrance and selection of students, intelligence tests, aptitude and placement tests, prediction of success, measurement of achievement, relation between intelligence and achievement, marks and examinations, scholarship standards, sex differences in scholarship, relation between scholarship and success in life, new-type non-standardized tests, standardized tests and measurement in the various subjects of instruction, student attitude toward the honor system and examinations, probation, failure and elimination, disabilities, diagnosis and remedial work, rating of teachers by students and others, freshman week, orientation courses and educational guidance, personnel and advisory work, and

vocational guidance. Since the student's first contact with the measuring instruments of the college is usually made in securing admission to the institution, certain problems of selection of students and college entrance may well be considered first.

College Entrance and Selection of Students.—Information concerning methods of admission to college and present trends in methods of college entrance is available in a 1929 yearbook.[1] A list of the seven commonly recognized ways of college entrance and a partial statement of the extent of use of such methods in 331 colleges and universities follow:

(a) An examination of the applicant in all of the specified subjects at the college or university itself.

(b) An examination in the specified subjects under the direction of separate examining boards, such as the College Entrance Examination Board.

(c) The presentation of a certificate (transcript) from an approved or accredited secondary school.

(d) A combination of the examination and certificate method.

(e) Presentation of a diploma from an approved secondary school.

(f) Certificate from an approved high school, psychological examination, and a thorough personal history of the applicant.

(g) Basis of maturity, vocational experience, and psychological examination.

1. The certificate method is now the most commonly used method, though indications point to a greater use of supplementary evidence to be used with it. It is the predominant method in 36, or 88 percent, of the state universities. It predominates in 71 percent of the 331 colleges and universities included in this study.

2. As a single method, the "certificate, psychological examination, and complete personal history" ranks second to the certifi-

[1] E. J. Brown, "Methods of Admission and Matriculation Requirements in 331 Colleges and Universities," *The Articulation of the Units of American Education*, chapter xix. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

cate method. It is used as a predominant method or equally with some other as a predominant method in about fourteen percent of the total number of institutions reporting; while in the New England Association of Secondary Schools and Colleges, it is used predominantly or equally with another method in 30 percent of the cases.

3. The high-school diploma by itself is only occasionally used as a method of college entrance.

4. Fifty-eight of the 331 institutions admit students occasionally on the basis of vocational training, maturity, and psychological examination.

The same yearbook[2] contains an interesting summary of reasons for change in the entrance requirements of 198 colleges and universities from 1921–1927. Detailed information concerning entrance requirements in the various school subjects also is given.

1. The data show that 198, or 60 percent, of 331 colleges and universities included in this study made changes in their entrance requirements during 1921–27. Of these 198, no less than 64 percent say that the change has come about through (a), "a voluntary change of policy within the institution." This appears to be a logical statement. The influences causing an individual or an institution to change a definite policy are always difficult to analyze; and the tendency to ascribe any such change to an outside influence is more or less unusual.

2. Twenty-six institutions say that the change has come about through (b), "a change in state regulations or state requirements." This reaches its height in the Northwest-West Association, where one-fourth of the colleges and universities reporting changes in admission requirements credit this as the reason. Institutions in the North Central Association of Colleges and Secondary Schools ascribe but 36 of their 73 changes to "voluntary reasons." The percentage for this group on this item is but 49, as opposed to 64 for the total. Twenty-eight percent of the institutions in this group report that (c)—"influence of high-school principals' and teachers' organizations"—has effected their changes in admission requirements in some way; either as a sole reason, 11 percent; in conjunction with (a), 12 percent; in con-

[2] E. J. Brown, *op. cit.*, pp. 348, 351.

junction with (b), one percent; or in conjunction with (a) and (b), four percent. This may or may not be due to the strong organization of secondary school principals in the North Central territory.

3. Fifteen, or eight percent, of the 198 institutions reporting a change in entrance requirements during 1921–27, ascribe the change to (c), "influence of high-school principals' and teachers' organizations." The only group not subscribing to this as a cause is the Northwest Association. A total of 19 percent of the 198 institutions ascribe changes to this reason or to it in conjunction with others.

4. Grouping by types of institutions and financial strength brings out no outstanding differences. Women's colleges seem to be as much influenced by "state regulations and requirements" and by the "influence of principals' and teachers' associations" as do state universities and the technical institutions. A greater percentage of colleges and universities with total annual income under a quarter million dollars admit their influence by (b), "state regulations and requirements," than do any other group. The difference may be due to a lack of false pride on the part of these institutions, and again the difference may be too small to have any significance.

In the 1928 yearbook of the Department of Superintendence[3] are listed eleven ways of satisfying college entrance requirements in 1922, as reported by McKown.[4] These eleven methods are:

1. Examination by the college itself.
2. Examination by the College Entrance Examination Board.
3. Certification by the high school. Adopted in 1871 by the University of Michigan.
4. Certification plus examination. Adopted by the College Entrance Board in 1916.

[3] E. L. Miller and Others, "The Relationship between High School and College," *The Development of the High School Curriculum*, chapter vi. Sixth Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1928.

[4] H. C. McKown, *The Trend of College Entrance Requirements*, 1913–1922. Bureau of Education Bulletin No. 35, 1924. Washington: Bureau of Education. Pp. iv + 172.

5. High-school diploma.
6. Normal school diploma.
7. Teacher's certificate.
8. Comprehensive examination in four subjects.
9. Psychological examination plus preparation plus health plus character. Adopted by Columbia in 1918.
10. Special adult student.
11. Examination in English composition only.

Proctor's study of admission requirements in relation to curriculum revision, reported in the same yearbook, also should be mentioned.[5]

Turner[6] compares data covering the entrance requirements of fifty normal schools with McKown's study of college-entrance requirements. His conclusion is that the trend of college and normal-school entrance requirements is toward a more liberal academic requirement and a more strict personal requirement. Furst expresses his pleasure in the fact that most progressive institutions in administering their entrance requirements do not depend exclusively upon any one form of machinery, such as certificates, written or psychological examinations, personal recommendations, ratings, or interviews, but use a combination of methods.[7] He reports that in a few universities the endeavor to understand the nature of prospective students has become so complete and

[5] W. M. Proctor, "College Admission Requirements in Relation to Curriculum Revision in Secondary Schools," *The Development of the High School Curriculum, op. cit.*, chapter vii.

Also W. M. Proctor and E. J. Brown, "Is a Uniform Plan of College Admission Either Feasible or Desirable?" *School Life*, XIV (April, 1929), 147–9.

[6] E. M. Turner, "A Comparison of the Trend of Normal School and College Entrance Requirements," *Educational Administration and Supervision*, XII (May, 1926), 304–10.

[7] Clyde Furst, "College Entrance Requirements," *The Effective College*, chapter v. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

disinterested as not infrequently to result in guidance of students, to their own advantage, toward other institutions or toward some quite different, non-academic career. Johnston emphasizes four significant elements which should enter into any plan for selection of students: (1) development of vocational and educational guidance in high schools to the highest possible efficiency; (2) dissemination of information from universities, colleges, and high schools until the public is acquainted with the basis of selection in individual differences and the advantages of such a plan to the candidate; (3) acceptance and use of the technical means of prediction and selection or guidance which are already available and the extension of these measures by further research; and (4) development within the college, especially in the first two years, of an educational guidance program that will continue the process of selection.[8]

Crane concludes from an investigation of students' marks at Bryn Mawr that if the lowest 10 per cent on entrance examinations are excluded, the method of selection is superior to that of excluding the lowest 10 per cent on the psychological test.[9] However, to exclude students in the lowest quarter on both entrance examinations and psychological test is a plan superior to either of the previously mentioned methods of selection. Whitman concludes from a study of correlations between entrance examinations and success in college and between teachers' marks and success in college that the advantage is slightly in favor of teachers' marks as a basis of pre-

[8] J. B. Johnston, "The Selection of College Students," *Problems of College Education*, chapter xix. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

[9] Esther Crane, "An Investigation of Three Plans for Selecting the Students to Be Admitted to College," *Journal of Educational Psychology*, XVII (May, 1926), 322–30.

diction of success.[10] For this reason he emphasizes the need for more accurate bases of prediction of success than either entrance examinations or teachers' marks. Allen concludes on the basis of a sampling of 885 cases that of 7,617 Pennsylvania boys who intend to continue their education, only 3,732 are good college risks; while of 10,212 Pennsylvania girls with similar intentions, only 4,493 are good college risks.[11] OBrien reports that of a total of more than four thousand pupils in the upper classes of sixty high schools, 35 per cent entered college; 61 per cent of those who entered college came from the upper half of high-school graduates; and 42 per cent of the students eliminated from college ranked in mental ability above the average of students who entered college.[12] His conclusion is that colleges are successful neither in attracting nor in holding the mentally fit.

Reference should be made to Linton's questionnaire study of 222 institutions, which deals with admission of students with and without advanced standing as candidates for the Bachelor's degree in education and admission of students as candidates for the Master's degree in education.[13]

Reeves and Russell have provided a helpful digest of studies concerned in part with selective admission of

[10] A. D. Whitman, "The Selective Value of the Examinations of the College Entrance Examination Board," *School and Society*, XXV (April 30, 1927), 522–5.

[11] W. O. Allen, "Who Should Go to College?" *School and Society*, XIX (February 23, 1924), 230–2.

[12] F. P. OBrien, "Mental Ability with Reference to Selection and Retention of College Students," *Journal of Educational Research*, XVIII (September, 1928), 136–43.

[13] Clarence Linton, *A Study of Some Problems Arising in the Admission of Students as Candidates for Professional Degrees in Education.* Teachers College Contributions to Education, No. 285. New York: Teachers College, Columbia University, 1927. Pp. xii + 164.

college students.[14] They describe the newer methods employed in the selection of students and summarize investigations of methods used in the selection of students.

In chapter iii attention was directed to a number of discussions of cooperative and friendly relationships between colleges and high schools. The application of such discussions to problems of college admission and selection of students is apparent; only through a spirit of mutual helpfulness and interest can wise selection of candidates for college admission be effected. In the space available it is possible only to mention the names of additional authors who have made available investigations or discussions concerned with problems of college entrance and selection of students. The following individuals are represented in the supplementary bibliography at the end of this chapter: Bradshaw, Chambers, Clark, Colvin, Dagney, Deutsch, Evans, Fiske, Fort, Gott, Gufler and Dyer, Guiler, Holmes, Johnston, Kelly, Koos, Linton, Ludeman, MacPhail, McVey, Mead, Probst, Randall, Sandison, Scates, Snyder, Storey, Taylor, Walters, Weber, and Webster.

Measurement of Intelligence.—As was suggested in the preceding discussion of college entrance and selection of students, psychological tests have come to be used extensively in colleges since the late World War. The value of such measurements in selection of students, prediction of success, ability grouping, and educational and vocational guidance has been discussed and investigated repeatedly. The theory, tools, and administration of mental measurements require no comment in this

[14] F. W. Reeves and J. D. Russell, *Some Aspects of Current Efforts to Improve College Instruction*, chapter iii. Bulletin of the Bureau of School Service, I (December, 1928). Lexington, Kentucky: Bureau of School Service, University of Kentucky.

book, since excellent treatments of such problems are already available.[15]

A good summary statement of the ways in which intelligence examinations have been used in the investigation of college problems is found in the 1929 yearbook of the National Society of College Teachers of Education.[16]

> The differential measurement of human intellect has now reached a degree of accuracy and minuteness of discrimination hitherto

[15] A. F. Bronner and Others, *A Manual of Individual Mental Tests and Testing.* Boston: Little, Brown and Co., 1927. Pp. 288.

W. F. Dearborn, *Intelligence Tests.* Boston: Houghton Mifflin Co., 1928. Pp. xxiv + 336.

F. N. Freeman, *Mental Tests.* Boston: Houghton Mifflin Co., 1926. Pp. xii + 504.

T. L. Kelley, *Interpretation of Educational Measurements.* Yonkers-on-Hudson, New York: World Book Co., 1927. Pp. xiv + 364.

Joseph Peterson, *Early Conceptions and Tests of Intelligence.* Yonkers-on-Hudson, New York: World Book Co., 1925. Pp. 320.

Rudolf Pintner, *Intelligence Testing.* New York: Henry Holt and Co., 1923. Pp. viii + 406.

G. M. Ruch and G. D. Stoddard, *Tests and Measurements in High School Instruction.* Yonkers-on-Hudson, New York: World Book Co., 1927. Pp. xxii + 382.

C. E. Spearman, *The Abilities of Man: Their Nature and Measurement.* New York: Macmillan Co., 1927. Pp. 416.

L. M. Terman, *The Measurement of Intelligence.* Boston: Houghton Mifflin Co., 1916. Pp. 362.

E. L. Thorndike and Others, *The Measurement of Intelligence.* New York: Teachers College, Columbia University, 1927. Pp. 616.

F. L. Wells, *Mental Tests in Clinical Practice.* Yonkers-on-Hudson, New York: World Book Co., 1927. Pp. 316.

B. D. Wood, *Measurement in Higher Education.* Yonkers-on-Hudson, New York: World Book Co., 1923. Pp. 338.

[16] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, pp. 8–9. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

impossible, and, in fact, far in excess of our ability to adjust educational methods to the new knowledge. The essential instrument of this measurement is the psychological test, and the possibility of wide application of the test is secured in the group examination. Recognition of this fact has led college administrators to turn with eagerness and a certain overexpectancy to the group intelligence examination as a means of improving the work of the college. The prevailing indication is that in many of the institutions its use has become quite as definite a part of the established routine as is the recording of college marks.

A variety of intelligence examinations modeled chiefly upon the Army Alpha are in use. The Thorndike, American Council, Otis, Thurstone, and Terman tests, and the Army Alpha itself, are often named. A number of colleges are constructing their own examinations, refining and adapting them in terms of results obtained in local use, employing for this purpose the coefficients of correlation with college marks. From the researches reported in connection with the use of intelligence examinations it would appear that this relationship with scholastic achievement is the matter of primary concern. The scores on intelligence tests are being checked with the high-school record as a whole and in special subjects, and with the marks received in college.

Frasier and Heilman list a number of ways in which the results of intelligence tests have proved valuable at Colorado State Teachers College: in admitting students, adjusting credit for advanced standing, securing positions for students, determining student load, determining readmission of students who have failed to carry the required work, determining the validity of classroom examinations, and as a general aid in the administration of the institution.[17]

Reeves and Russell have summarized a number of studies which are concerned with the utilization of intelligence tests in higher institutions.[18] They list the uses

[17] G. W. Frasier and J. D. Heilman, "Experiments in Teachers College Administration, III: Intelligence Tests," *Educational Administration and Supervision*, XIV (April, 1928), 268–78.

[18] F. W. Reeves and J. D. Russell, *op. cit.*, chapter i.

of such tests as follows: in determining admissions, making decisions concerning the amount of work that students are permitted to carry, determining probation and dismissal for low scholarship, selecting bright students and motivating their work, sectioning classes, giving educational and vocational advice, and in establishing a threshold predictive of successful college work.

The reader who wishes more detailed information concerning the measurement of intelligence and the investigation of related problems such as correlations between intelligence, high-school record, college marks, teacher ratings, etc. may examine the supplementary references at the end of this chapter under the names of the following authors: Anderson, Averill, Benson, Boynton, Breitwieser, Bridges, Carothers, Clement, Colvin, Cowdery, Ellis, Erffmeyer, Haggerty, Hildreth, Hill, James, Kuenzel and Toops, MacPhail, Martens, Michael and Crawford, Murray, O'Shea, Pintner and Upshall, Reed, Rogers, Scott, Snedden, Stalnaker, Stewart, Stone, Symonds, Thurstone, Webb, Whinery, Whipple, Whitchurch, Whitney, and Wilson.

Aptitude and Placement Tests.—Since intelligence tests have proved successful in predicting scholastic success they are known in some quarters as "college ability" or "scholastic aptitude" tests. A concise summary statement of the use of intelligence tests for the purpose of determining scholastic aptitude appears in the current yearbook of the National Society of College Teachers of Education.[19]

> The capacity of intelligence examinations to predict college success has so dominated college thinking about them that in many quarters the term "college ability tests" has come to replace the more psychological terms used in their description. This practice tends to facilitate the use of the tests without the intrusion of

[19] W. S. Gray and Others, *op. cit.*, pp. 9–11.

theoretical questions as to the nature of intelligence, which is thus left to the academic psychologist for study and disputation. This view governs the practice of the College Entrance Examination Board, which has adopted the phrase "scholastic aptitude tests" in referring to the tests used by a number of colleges. A commission of this Board has engaged for several years in the creation of a series of intelligence examinations for high-school graduates applying for college entrance. The plan involves the selection and perfection of a group of tests—nine tests in the group now used—and the combination of these into a single examination. Special attention is given to the suitability of each subtest and to each item in the test to the end of making the most accurate measuring instrument possible. The refinements of statistical methods have been employed in this process, resulting in a battery of tests of high reliability, r = from 0.78 to 0.96 by various calculations. The coefficients of correlation of scores in the aptitude tests with college marks give evidence of value in the prediction of Freshman scholarship. Used singly, they reach or exceed 0.45; and when the scores are used in combination with school averages and the results of subject-matter examinations, the coefficient rises in one calculation to 0.71. While this battery of tests is still in the throes of experimental analysis, the commission is proceeding upon sound principles of test development. Since the commission apparently has adequate resources, all that present techniques of examination making can produce should be forthcoming from its work. An extension of the use of the scholastic aptitude tests, therefore, seems likely to occur.

Although the use of psychological tests in colleges has become fashionable since the World War, it is doubtful if many institutions have realized as much of practical benefit from them as was anticipated. Certain it is that the tests have not readily lent themselves to automatic procedures in the selection of students to the degree that some apparently hoped they would. While unquestioned improvement in the reliability of intelligence tests has been secured, self-correlations by the "split-halves" method or by the "test-repetition" method having been pushed up to 0.95 and even higher in the case of a number of examinations, we are yet far from the goal in securing high coefficients for the relationship of test scores with any measures of success in college. Witness the ever-accumulating coefficients of correlation of less than 0.50 and the smaller number that fall between 0.50 and 0.70. Such results clearly indicate the inadequacy of current intelligence

examinations to tap singly all the factors that enter into human ability of the sort required in college work.

Not all the reasons for this failure are clear, but doubtless one potent cause is the inadequate and inaccurate marking systems which colleges still employ as measures of student achievement. Until improvement occurs in this matter, it will not be possible to determine the degree to which the intelligence test is a real measure of scholastic aptitude. In addition, the possibility remains that though we had a perfect measure of student intellect, and though college achievement were recorded with entire accuracy, the coefficients of correlation between these two measures would still be far from perfect because intellect may not be the only effective component of student ability. Achievement may depend in part upon non-intellectual factors, but concerning these matters our psychology is still vague and practical techniques less adequate than in affairs of the intellect.

Seashore considers the departmental placement examination one of the most promising lines of investigation now under way in higher education.[20] He suggests that it is the natural sequence to the so-called intelligence tests used at college entrance, and is likely to replace the now current qualifying examination, or be absorbed in it. Seashore states that the placement examination differs in eight respects from intelligence tests or general qualifying examinations.[21]

1. It is devoted to specific subjects or fields of knowledge, such as English, mathematics, or chemistry.
2. It differentiates between training in a subject and natural aptitude or fitness for that field of work.
3. It is a departmental affair and is given separately by each department in its immediate interests and needs.

[20] C. E. Seashore, *The Placement Examination as a Means for the Early Discovery and Motivation of the Future Scholar.* Washington: National Research Council, 1925. Pp. 8.

[21] C. E. Seashore, "College Placement Examinations," *School and Society,* XX (November 8, 1924), 575–8.

4. It serves as an introduction to the subject, being prepared with the purpose of reminding the student of the essential prerequisites for the course and indicating the general character of the activity that will be pursued in the course, and being so written from the point of view of the art of teaching that it shall constitute the most profitable exercise for the first two hours of the course.

5. This examination should give, at the end of two hours, as adequate information about the student's place and needs in the course as the instructor ordinarily acquires by the end of the first semester under the traditional methods of instruction.

6. The record of a general intelligence test may be used to supplement this examination, but that is not essential, as a series of placement aptitude tests will be more significant than a general intelligence test.

7. It is prepared by, or in responsible collaboration with, a successful teacher and writer in the specific subject.

8. It is given for a specific purpose, and the results may be applied immediately in the organization of sections of the class on the basis of this objective information about the character of the preparation and the natural aptitude for the subject.

More detailed information concerning experiments which involve utilization of aptitude and placement tests may be found in the chapter bibliography under the names of the following authors: Brigham, Cook, Hammond, Jones, Langlie, Mann, Shepherd, Stoddard, and Toll.

The most comprehensive treatment of aptitude testing now available has been prepared by Hull.[22] Part I is devoted to the principles of aptitude testing, including discussions of the historical development of interest in the measurement of special abilities, aptitude differences, types of tests available, anatomical and other alleged signs of aptitude, derivation of the aptitude prognosis from raw test results, nature and basic constitution of aptitudes and tests, fundamental relations and correla-

[22] Clark L. Hull, *Aptitude Testing*. Yonkers-on-Hudson, New York: World Book Co., 1928. Pp. xvi + 536.

tions among aptitudes and tests, and the composition and yield of test batteries. The author defines an aptitude test as a test "designed to discover what potentiality a given person has for learning some particular vocation or acquiring some particular skill" (p. 50). He divides the tests into two rather distinct classes: aptitude tests and proficiency tests; proficiency tests are further divided into trade tests as in industry and achievement tests as in the school subjects. Part II takes up the problem of methods in aptitude testing and outlines six steps in test-battery construction. A chapter is devoted to each of these steps which are: psychological analysis of occupational behavior, assembling a trial battery of tests, administering the preliminary test battery to a trial group of students, determination of the actual aptitudes of the trial subjects, selecting the final aptitude battery, and combining the tests to secure the maximum forecasting efficiency. The book contains four appendices of tabular material, a bibliography of 105 references, ninety-five tables, and sixty figures.[23]

Prediction of Success.—In the foregoing discussions of college entrance, measurement of intelligence, and aptitude tests frequent reference was made to the desirability of utilizing the results of intelligence and aptitude tests and entrance examinations in the prediction of scholastic success. A statement[24] found in the preceding discussion of aptitude and placement tests is to the effect that correlations between certain aptitude tests and college marks reach or exceed .45. When aptitude scores are combined with school averages and the results of subject-matter examinations the correlation with

[23] Adapted from the writer's book review in *Educational Administration and Supervision*, XV (March, 1929), 237–40.

[24] W. S. Gray and Others, *op. cit.*, pp. 9–11.

college marks rises as high as .71. Johnston reports that by using a combined rating of rankings on psychological tests and high-school record less than a 2 per cent error was made in prediction of success in college.[25] Of a total of 1,088 students entering the University of Minnesota it was predicted that 208 would be unable to show satisfactory scholarship in college, and only three exceeded expectations.

Odell summarizes the results secured by a rather large number of investigators by saying there is probably little difference in the accuracy of predictions based upon the three different criteria of high-school marks, college entrance examinations over high-school subjects, and intelligence test scores.[26] He states that coefficients of correlation between any one of the three criteria and college marks may be expected to range from about .40 to .50 or perhaps higher; that combinations of these factors will often yield correlations of .60 or above; and that if measures of study and other relevant habits are included this figure can be raised appreciably. Odell discusses critically the accuracy of the predictions based on obtained data and makes significant concluding statements concerning use of the available criteria for predicting scholastic success in college.[27]

> Coefficients of correlation of the sizes usually found, that is from .40 up to .50 or even .60, indicate that the corresponding predictions of freshman marks are not a great deal better than pure guesses. Predictions corresponding to the highest of these coefficients are

[25] J. B. Johnston, "The Selection of College Students," *Problems of College Education*, chapter xix. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

[26] C. W. Odell, *Predicting the Scholastic Success of College Freshmen*. University of Illinois Bulletin, Vol. XXV, No. 2. Urbana, Illinois: University of Illinois, 1927. Pp. 54.

[27] *Ibid.*, pp. 53–4.

still subject to errors at least three-fourths as large as those in pure guesses or, in terms of points on the percentile marking scale, at least half of the errors in the estimates are larger than five points. It should, however, be pointed out that high scores upon intelligence tests and also, but probably to a lesser degree, high high-school or entrance examination marks are more reliable than low ones and more confidence may be placed in them as indicating possibilities of student performance. Comparatively few individuals earn scores or marks much above what they really deserve, but many fairly able individuals, through indifference, carelessness, temporary distraction or other causes, make scores or marks too low to be indicative of the abilities which they possess. One is reasonably safe, therefore, in assuming that an individual who is rated high by all, or even by any one, of the three criteria—intelligence test, high-school mark, and college entrance examinations—is able to do reasonably satisfactory or better work in college, whereas the fact that an individual's score is low in one of them or perhaps even in all is not nearly so sure an indication that he cannot, if he will, do satisfactory work, although the chances are strong that if his scores are low in all three, his scholastic work in college will also be decidedly poor.

. . . . . .

Since both for the purpose of determining the admission of applicants to college and of personnel work with students who have been admitted, it is desirable to predict the quality of their scholastic work, it is better to make use of such bases of prediction as we have than to rely upon pure guesses. Therefore the use of high-school marks, entrance examination results, or intelligence test scores for this purpose is better than that of no criterion at all. It should be recognized, however, that the errors present are decidedly large and that the predictions of the work to be done by individuals cannot be relied upon as possessing a high degree of accuracy. The writer wishes to emphasize as strongly as possible the need for further experimentation and investigation, especially along the line of determining which criteria form the best combinations for predictions based upon multiple correlation and regression equations. He believes that a combination of the score upon one of our best intelligence tests for this purpose, such as that of Thorndike, of the marks in certain high-school subjects or groups of subjects and on the best types of entrance examinations over these subjects, of the ratings of study habits and perhaps other factors, can be combined so that practically any institution

can obtain correlations of .75 or .80 between the marks of its students and the best available combination.

In the chapter bibliography of supplementary references will be found a number of additional studies and discussions of prediction of success in college, including consideration of prediction in such subjects as medicine, teaching performance, practice teaching, English, foreign languages, and physics. These references are found under the names of the following authors: Arlitt and Hall, Banker, Bayne, Bear, Bott, Brooks, Broom, Carter, Ellefson, Ernst, Friedl, Horn, Johnston, Jones, Lemon, Lohr, Madsen, May, Patterson, Schultz, Sorenson, Tallman, Whitman, and Zant.

Reeves and Russell have included in their bulletin a summary of studies dealing with prediction of success.[28] They discuss the use of intelligence tests in predicting scholastic success, the relative value of various criteria for the prediction of college success, the prediction of scholastic success in specific subjects, the prediction of scholastic success with more than one criterion as a basis, and the effect of educational and social background upon scholarship.

Relation between Intelligence and Achievement.—The relation between intelligence and achievement has been mentioned a number of times in the foregoing portion of this chapter, particularly in the preceding discussion of prediction of success, where coefficients of correlation were cited. However, it seems desirable to refer the reader to a number of additional studies and analyses which are concerned especially with the relation between intelligence and scholastic success. Such references are found in the chapter bibliography under the names of: Averill and Mueller, Binneweis, Clement and Smythe,

[28] F. W. Reeves and J. D. Russell, *op. cit.*, chapter ii.

Flinner, Gowen and Gooch, Hughes, Pierson and Nettels, Rogers, Thompson, Wilson, and Young.

Improvement in the Measurement of Instruction and New-Type Tests.—Much evidence has been accumulated which shows the subjectivity and unreliability of the traditional essay types of measurement. Certain investigations of variability in the marks of different teachers who evaluate the same paper or question of the essay type have become classic in educational literature. Ruch and Stoddard state that when ninety-one teachers marked the same pupil's answer to a question in geography the results showed a range of marks of from two to twenty out of a possible twenty points.[29] They also refer to the investigations of Starch and Elliott who used a paper in geometry and a paper in English. The geometry paper was duplicated and sent to 115 experienced teachers whose marks ranged from 28 per cent to 92 per cent. The English paper, marked by 142 teachers, resulted in a range of marks of from 50 per cent to 98 per cent.

Ruch and Stoddard divide objective or new-type tests into the major divisions of recall and recognition types. The former includes simple recall questions and completion exercises, while the latter includes the following sub-types: multiple response, true-false, matching exercises, best answer or judgment tests, identification exercises, and rearrangement tests. The same authors provide a good discussion of the advantages and limitations of each of these types of tests and of objective tests in general.

Greene's concise statement of the three important advantages of the informal objective examination and

[29] G. M. Ruch and G. D. Stoddard, *Tests and Measurements in High School Instruction*, Part III. Yonkers-on-Hudson, New York: World Book Co., 1927.

of a rather common criticism of this form of measurement is as follows:[30]

(1) The pupil's response can be scored on an objective or almost objective basis. This can be accomplished by following proper directions in administering and scoring the exercises employed. The fact that objective or near objective scoring is possible renders it probable that reliability will be higher, other things being equal.

(2) The amount of writing done by pupils is reduced to a minimum. This practically eliminates the advantage of rapid and fluent writers over those not so gifted; the fact that they can write more material in the same length of time should not result in their receiving higher marks in most subjects. Also there is much less opportunity for the teacher to be influenced, frequently unconsciously, by good or bad writing, spelling, punctuation and other similar qualities, which have no connection with achievement except in the field of English.

(3) A much wider range of achievement can be measured or a much larger sampling can be secured than is possible by a discussion or essay type of examination requiring the same amount of time. This minimizes the likelihood that pupils just happen to know or not to know a large enough proportion of the answers to the question asked that their scores are largely the result of chance. Other minor advantages might be named but it seems that these three major items are enough to justify the use of objective exercises in preference to those of the traditional type when one desires to measure detailed factual knowledge.

The objective examination is often criticized as failing in one of the commonly accepted functions of examinations, that of training the pupil in thought organization and written expression. A further disadvantage which is highly related to this is the fact that many of the tests of the objective type appear to place an undue emphasis on the memorization of details with little or no development of discrimination, evaluation, or organization ability on the part of the pupil. In a sense this appears to be a serious objection

[30] H. A. Greene, *Educational Tests and the Classroom Teacher*, pp. 24–5. University of Iowa Extension Bulletin No. 199, College of Education Series No. 25. Iowa City, Iowa: University of Iowa, 1928.

but more careful consideration reveals the fact that it is a function of the methods of constructing the examinations and is not innate in the examinations themselves.

The reader interested in further details concerning the theory, principles, construction, and use of new-type examinations will find available a number of helpful treatments of the subject, most of which include reproductions of sample tests of the various types.[31]

Distribution of Marks.—If it is granted that instructors who use objective methods of measurement are able to determine with a fair degree of accuracy the performance of students in their classes, there remains the problem of distribution of marks. Spence concludes that in the absence of a better method the normal curve of distribution should be employed. Spence and Miller together list six plans for the distribution of marks.

[31] C. W. Odell, *Traditional Examinations and New-Type Tests.* New York: Century Co., 1928. Pp. 468.

C. W. Odell, *A Selected Annotated Bibliography Dealing with Examinations and School Marks.* University of Illinois Bulletin, Vol. XXVI, No. 20. Urbana, Illinois: University of Illinois, 1929. Pp. 42.

J. S. Orleans and G. A. Sealy, *Objective Tests.* Yonkers-on-Hudson, New York: World Book Co., 1928. Pp. x + 374.

D. G. Paterson, *Preparation and Use of New-Type Examinations.* Yonkers-on-Hudson, New York: World Book Co., 1925. Pp. 88.

G. M. Ruch, *The Improvement of the Written Examination.* Chicago: Scott, Foresman and Co., 1924. Pp. 194.

Charles Russell, *Classroom Tests.* Boston: Ginn and Co., 1926. Pp. vi + 346.

P. M. Symonds, *Measurement in Secondary Education.* New York: Macmillan Co., 1927. Pp. 588.

B. D. Wood, *Measurement in Higher Education.* Yonkers-on-Hudson, New York: World Book Co., 1923. Pp. xii + 338.

The percentages recommended for each letter are as follows.[32]

	A	B	C	D	F
Missouri plan	3	22	50	22	3
Dearborn	2	23	50	23	2
Cattell	10	20	40	20	10
Foster	2	18	50	24	6
Finkelstein	12	19	45	21	3
Rugg	7	24	38	24	7

However, Spence calls attention to the fact that distribution of marks according to the normal curve does not solve certain problems such as weighting of marks from the senior year as compared with marks from the freshman year, or the weighting of marks from the engineering school as compared with marks from the agricultural school.[33] His suggestion is that instructors simply rank students in their classes and that a single administrative officer turn the ranks into usable units. It is recognized that where a letter system is in use a mark of A in the freshman year is not the same as an A in the senior year, nor is such a mark the same in a class of low ability as in a section of high ability. These are difficulties that Spence would overcome by his suggested plan of ranking.

Kelly, as a result of his survey of colleges, presents helpful information concerning practices in use in measuring the achievement of college students.[34] He describes

[32] R. B. Spence, *The Improvement of College Marking Systems.* Teachers College Contributions to Education, No. 252. New York: Teachers College, Columbia University, 1927. Pp. vi + 90.

W. S. Miller, "College Marks," *Problems of College Education,* chapter xxiii. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

[33] R. B. Spence, "The Improvement of College Marking Systems," *School and Society,* XXVIII (August 25, 1928), 224–7.

[34] F. J. Kelly, *The American Arts College,* chapter vi. New York: Macmillan Co. 1925.

briefly three types of marking systems (percentage, pass-fail, and few-groups); methods of defining or distributing marks; schemes of credit for quality, honor points, and grade points; and scholarship requirements and privileges in terms of marks.

Attention should be directed to additional references which are concerned with improvement in the measurement of instruction. These studies may be found in the chapter bibliography under the names of Book, Courtis, Peters, Waller, and Wood.

The bulletin by Reeves and Russell includes a summary of investigations which deal with problems in the measurement of instruction.[35] The topics treated include: studies of marking systems, experimental evidence of the inaccuracy of college marks, administrative devices to improve marking systems, objective or new-type tests, standardized tests in college subjects, and the general final examination in the major subject.

Application of New-Type Tests in Education Courses.—Investigators have been especially active in education courses in trying out various forms of objective examinations and tests. Such studies are concerned with comparisons of the merits of two or more kinds of new-type tests or a comparison of an objective test with the traditional essay form of examination, the guessing element in true-false and certain other new-type tests, etc. A number of these studies are listed in the chapter bibliography under the names of Arnold, Chapman, Crawford and Raynaldo, Greene, Jones, Lehman, Leker, Longstaff and Porter, Mead, Paterson, Perry, Ruch and Charles, and Ruch and Degraff.

It is not a great stretch of the imagination to consider score cards and teacher-rating schemes for the evaluation of the work of student teachers and teaching efficiency

[35] F. W. Reeves and J. D. Russell, *op. cit.*, chapter vi.

as an aspect of the current interest in new-type tests. Certainly such objective methods of evaluation have merits not present in school systems and training schools where purely subjective and general-impression evaluation of teaching performance is in vogue. Investigations and discussions of score cards and the rating of student teaching are listed in the chapter bibliography under the names of Helseth, Kinder, Nulton, Sears, Senska, Trow and McLouth, and Waddell.

Standardized Tests for Students of Education.—Some work has been done toward the development of standardized tests of various types in the field of education. Engelhart describes the following standard tests in education: Coxe's teachers' interest test; Orleans and Coxe's prognosis test for prospective teachers; Frasier and Armentrout's standard achievement test for a course in introduction to education; Geyer's objective examination on intelligence testing; Bathurst, Knight, Ruch, and Telford's professional tests for teachers; Moss, Hunt, and Wallace's teaching aptitude test; Odell and Herriott's standard achievement test on principles of teaching in secondary schools; Waples and others' classroom procedure tests; Weber's standard achievement test on aims, purposes, objectives, attributes, and functions in secondary education; Jensen's Stanford educational aptitudes test; etc.[36] In this connection, Boardman's investigation of professional tests as measures of teaching efficiency in high school should be mentioned.[37] Apparently Boardman's tests are not described in Engelhart's article.

[36] M. D. Engelhart, "Standardized Tests for Students of Education," *Educational Administration and Supervision*, XV (February, 1929), 93–101.

[37] C. W. Boardman, *Professional Tests as Measures of Teaching Efficiency in High School.* Teachers College Contributions to Education, No. 327. New York: Teachers College, Columbia University, 1928. Pp. 86.

Standardized Tests and Objective Measurements in Subject-Matter Fields.—Attention has already been directed to placement examinations or aptitude tests in special-subject fields, which have been developed in an attempt to predict scholastic success in such fields. For example, the Iowa placement examinations in English, mathematics, chemistry, physics, French, and Spanish were available in 1925, and in addition examinations in other freshman subjects and several sophomore subjects were in experimental stages.[38]

It is possible only to enumerate subject-matter fields in which investigators have been active at the college level in their efforts to measure achievement objectively. The fields of foreign language, physical education, geography, spelling, English, shorthand, rhetoric, social science, mathematics, religious education, music, chemistry, and physics are represented in the chapter bibliography under the names of Bovard and Cozens, Bovée, Branom, Brown and McKee, Cheydleur, Cozens, Doherty, Henmon, Horton, James, Jette, Knight, Knower, McKee and Conklin, Moss and others, Palmer, Purin, Reeve, Rogers, Schoonmaker, Stanton, Van Wagenen, Watson, and Wood.

In addition to Wood's treatment[39] of measurement in higher education, several books intended primarily for secondary-school workers contain information applicable to problems of measurement of achievement at the college level.[40]

[38] C. E. Seashore, *The Placement Examination as a Means for the Early Discovery and Motivation of the Future Scholar.* Washington: National Research Council, 1925. Pp. 8.

[39] B. D. Wood, *Measurement in Higher Education.* Yonkers-on-Hudson, New York: World Book Co., 1923. Pp. xii + 338.

[40] T. L. Kelley, *Interpretation of Educational Measurements.* Yonkers-on-Hudson, New York: World Book Co., 1927. Pp. xiv + 364.

Marks and Examinations.—Attention has already been directed in this chapter to certain problems of marks and examinations which arise in connection with college entrance, prediction of success, new-type tests, and distribution of marks. A number of possible distributions of marks, in terms of percentage to each letter, were listed. Kelly states that the percentage system, which assumes that 100 per cent is a perfect score, is still used in a considerable number of institutions but is being supplanted by the few-groups system, which usually involves a series of letters to indicate different levels of performance.[41] The pass-fail system which has no other designation of performance than pass or fail is limited chiefly in its use to graduate schools. Mention was also made of Kelly's survey of practices in colleges with respect to methods of defining and distributing marks; schemes of credit for quality, honor points, and grade points; and scholarship requirements and privileges in terms of marks.

Odell's bibliography dealing with examinations and school marks includes three hundred references and should be examined by the reader who wishes to study this problem exhaustively.[42] His references are grouped

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G. M. Ruch and G. D. Stoddard, *Tests and Measurements in High School Instruction.* Yonkers-on-Hudson, New York: World Book Co., 1927. Pp. xxii + 382.

H. L. Smith and W. W. Wright, *Tests and Measurements.* New York: Silver, Burdett and Co., 1928. Pp. viii + 542 + x.

P. M. Symonds, *Measurement in Secondary Education.* New York: Macmillan Co., 1927. Pp. 588.

G. M. Wilson and K. J. Hoke, *How to Measure.* New York: Macmillan Co., 1928 (revised and enlarged). Pp. 598.

[41] F. J. Kelly, *The American Arts College,* chapter vi. New York: Macmillan Co., 1925.

[42] C. W. Odell, *A Selected Annotated Bibliography Dealing with Examinations and School Marks.* University of Illinois Bulletin, Vol. XXVI, No. 20. Urbana, Illinois: University of Illinois, 1929. Pp. 42.

under five headings: general, traditional examinations, new-type tests, school marks, and prevention of cheating. Certain studies and discussions which apply especially at the college level may be found in the chapter bibliography under the names of Bennett, Blackhurst, Bohan, Breeze, Brewer, Carmichael, Eells, Ellis, Gaw, Gordon, Heilman, Holy, Hopkins, Jones, Koerth and Ruch, Lauterbach, Mersereau, Ogan and Ewing, Persinger, Phelps, Rathbun, Robinson, Schutte, Sharp, Sherman, Somers, Stevens, Symonds, Weidemann and Wood, Weymann, and Wood.

Miller's summary of his discussion of college marks seems an essentially sound presentation of the issues involved and of recommendations for the improvement of marking systems.[43]

1. Marks should be given for *achievement only.*

2. Instructors should be given an opportunity to rate students on character traits, independent of achievement.

3. Five levels of achievement should be indicated by the letters A, B, C, D, and F.

4. These marks may be defined in terms of the normal probability curve: A, 7 per cent; B, 24 per cent; C, 38 per cent; D, 24 per cent; and F, 7 per cent; or in terms of some other type of distribution agreed upon by the faculty.

5. Explanation of the meaning of the five marks should not be in terms of equivalents on the 100 per cent scale, $A = 95$ to 100, B, 85 to 94, etc.

6. The ideal marking system is one in which students will be rated on objective, standardized tests of achievement. Until we have reached this ideal, it is very important to recognize that marks indicate only relative achievement in the small group in which they are earned.

Scholarship in Relation to High-School Records, Junior-College Transfers, Sex, Athletics, Fraternities, Attendance,

[43] W. S. Miller, "College Marks," *Problems of College Education,* pp. 298–9. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Vocational Success, Etc.—It has been stated in this chapter that the coefficient of correlation between high-school marks and college marks may be expected to range from about .40 to .50 or even higher. Thornberg concludes that students from large high schools are superior in scholarship in college to students from small high schools.[44] He finds the most marked difference between students from high schools of less than one hundred enrollment and students from high schools of more than one hundred enrollment. This difference is attributed to variations in preparatory training rather than to native capacity. Students who enter college at the normal age or a year younger do the best work and are of a superior native endowment. Women surpass men in scholarship and are a more highly selected group, as judged by intelligence scores. Treatments of the relation between high-school standing and scholastic success in college may be found in the chapter bibliography under the names of Beatley, Clark, Rivett, Scates, and Zeigel.

Eells points out the superiority of 317 students who transferred from junior colleges to the upper division of Stanford University over a five-year period.[45] This superiority over other students is found in terms of intelligence, previous academic records, academic records in the upper division of the university, honors received, and enrollment for graduate work.

The studies are in agreement that college women are superior to men in scholarship. Flickinger is of the opinion that women are more willing to do the type of

[44] L. H. Thornberg, "College Scholarship and Size of High School," *School and Society*, XX (August 9, 1924), 189–92.

[45] W. C. Eells, "Records of Junior-College Transfers in the University," *School Review*, XXXVII (March, 1929), 187–97.

W. C. Eells, "University Records of Students from Junior Colleges," *California Quarterly of Secondary Education*, III (June, 1928), 301–17.

memory work required in college and therefore receive higher marks.[46] He substantiates this theory by pointing to the fact that men forge ahead of women in the graduate school where independent thinking plays a more prominent part than in the undergraduate institution. Gowen and Gooch report that women are superior to men in scholarship in college and explain the difference by the superior high-school record of the women, which indicates that women are a more select group.[47] Toevs and Emerson seek to explain the superiority of women in scholarship by suggesting that they are a more select group in terms of native intelligence.[48] They also suggest that women are governed by stricter standards and have more regular hours and better study conditions, which may explain in part their superior performance. Cunningham offers some statistical evidence to the effect that popular notions concerning sex favoritism in marking are without foundation.[49] Paterson and Langlie recommend the use of objective tests and examinations to overcome the so-called pseudo-differences in scholarship between the sexes.[50] They are of the opinion that many instructors are rewarding the personality traits of women rather than measuring genuine scholastic achievement.

[46] R. C. Flickinger, "Scholarship and Sex," *School and Society*, XV (June 3, 1922), 602–5.

[47] J. W. Gowen and M. Gooch, "Age, Sex, and the Interrelations of Mental Attainments of College Students," *Journal of Educational Psychology*, XVII (March, 1926), 195–207.

[48] Ethel Toevs and D. A. Emerson, "Sex Differences in College Scholarship," *Educational Administration and Supervision*, XI (March, 1925), 201–10.

[49] A. B. Cunningham, "The Sex Element in College Grades," *School and Society*, XIV (December 3, 1921), 523–5.

[50] D. G. Paterson and T. A. Langlie, "The Influence of Sex on Scholarship Ratings," *Educational Administration and Supervision*, XII (October, 1926), 458–68.

Worcester, on the basis of studies secured from the registrars of ten colleges and universities, reports that sorority groups stand above non-sorority groups in scholarship and that the scholastic standing of non-fraternity groups is higher than that of fraternity groups; the data also indicate that the standing of women is uniformly higher than that of men.[51] Reports of progress on a survey of fraternity scholarship in 118 institutions with five or more fraternities indicate the difficulties encountered in comparing institutions due to variations in marking systems.[52]

Turner points out that decrease in scholarship is accompanied by irregular attendence and by an increase in absences from class.[53]

It is possible only to mention certain miscellaneous studies and discussions of interest in a treatment of college scholarship. The complete references appear in the chapter bibliography. Hutchinson, Remp, and Savage have investigated the problem of scholarship in relation to participation in athletics. Gambrill, Jones, Pyle, and Smith have studied the relationship between scholastic success and certain other factors in college and vocational success in life. Studies of academic achievement in relation to family background, exposure to Latin, years in college, background educational factors, and extra-mural study have been reported by Clark, MacPhail, Mersereau, Miller, Pressey, Spence, Thompson and Russell, and Zeigel.

[51] D. A. Worcester, "Fraternities and Scholarship," *School and Society*, XVIII (August 4, 1923), 147–8.

[52] "Survey of Scholarship among College Fraternities," *School and Society*, XXIII (May 29, 1926), 676–7.

"College Fraternities and Scholarship," *School and Society*, XXIV (December 18, 1926), 755.

[53] F. H. Turner, "A Study in the Relation of Class Attendance to Scholastic Attainment," *School and Society*, XXVI (July 2, 1927), 22–4.

The Problem of Student Attitude, Cheating, and Honor on Examinations.—Information is available with respect to the extent of use of the honor system. Baldwin reported from a survey of 425 institutions in 1915 that 123 colleges were using some form of the honor system; 101 were operating under the honor system in all departments and twenty-two in some divisions only.[54] In addition, forty-four other colleges reported that the honor system was operating in spirit if not in form, and thirty-one institutions were considering its early adoption. In 1925 Moore addressed inquiries to 140 institutions and received replies from eighty colleges which did not use the honor system, all but four of which were located in the North and West.[55] Replies from forty-eight institutions indicated that the honor system was in use; nineteen of these colleges were located in the South. Lyman canvassed fifty colleges and universities with an enrollment which ranged from 1,500 to 12,000 students in order to secure information concerning the problem of student honor.[56] His discussion is concerned with: the need for promoting honorable conduct, college agencies responsible for student honor, extent of the honor system, views favoring the honor system, adverse views, precautions in conducting examinations, offenses and penalities, publicity given to cases of violation of the honor code, and methods of promoting honor sentiments.

Other treatments of detection of cheating, mental characteristics of cheaters, student attitude toward

[54] Bird T. Baldwin, *Present Status of the Honor System in Colleges and Universities.* Bureau of Education Bulletin No. 8, 1915. Washington: Bureau of Education.

[55] Mary T. Moore, "The Honor System, Its Extent and Application," *Bulletin of the American Association of Collegiate Registrars,* New Series, No. 1 (July, 1925), 157–72.

[56] R. L. Lyman, "The Problem of Student Honor in Colleges and Universities," *School Review,* XXXV (April, 1927), 253–71.

examinations, honesty, bluffing on examinations, safeguarding the administering of examinations, and the honor system are listed in the chapter bibliography under the names of Bird, Brownell, Carter, Fenton, Fenton and Lehman, Fernberger, Griffin, Gundlach, Hines, and Somers. Separate mention should be made of a bibliography[57] of references on student self-government and the honor system which covers the period, 1913-1925.

Probation, Failure, and Elimination.—Bennett reports a study of progressive retention standards and differentiated scholarship standards as the student progresses through college.[58] His information was secured from twenty-five state universities and colleges and a few privately supported institutions. As is generally known, standards from freshmen are lower than for upperclassmen and in many institutions scholarship requirements become progressively higher as the student advances through college.

Pressey studied, by the personal interview method, the differences between twenty-five "A" students and 25 "E" students. She also used the questionnaire method to detect differences between the fifty best and fifty poorest students in a group of two hundred. The crucial differences pointed out are as follows:[59]

1. A distinctly greater number of poor than of good students report physical handicaps or poor health.

[57] *List of References on Student Self-Government and the Honor System.* Bureau of Education Library Leaflet No. 31, 1925. Washington: Bureau of Education. Pp. 6.

[58] R. D. Bennett, "Differentiated Scholarship Standards in Universities," *Educational Research Bulletin*, VII (May 16, 1928), 211–4. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

[59] S. L. Pressey, L. C. Pressey, and Others, *Research Adventures in University Teaching*, p. 10. Bloomington, Illinois: Public School Publishing Co., 1927.

2. More of the poor than of the good students are earning their way, wholly or in part, during the school year.

3. Poor students lack a routine of work; they do not plan their time or have any regular work habits.

4. Poor students fail to read selectively and to make use of reading aids, such as topic headings, summaries, graphs; they also make less use of the dictionary.

5. Good students are distinguished by the greater systematization and organization of their notes, in both reading and lecture.

6. Good students review more often, and in particular they review selectively with reference to weak spots instead of going over all material indiscriminately.

7. Poor students are frequently deficient in the mechanics of English composition.

West reports reasons for withdrawal of students from the University of Minnesota.[60] Total undergraduate registration for the college year 1922–23 was 9,025. When he excludes from the count students who are not considered on account of transfer to another unit of the university, death, subsequent return, completion of course of study, or exclusion by the university, there is a net loss of 1,659 or 18.4 per cent of the year's registration. Of 1,302 classified cases of withdrawal from college the reasons given for such action and the percentage for each group are as follows: financial, 31.7; illness, 19.7; transferred to other institutions, 8.6; going into business, 8.4; lack of interest or discouraged, 7.5; change or lack of an objective, 6.8; illness or death in the family, 3.7; dissatisfied with some phase of the university, 3.2; family moving away, 2.5; program or curriculum difficulties, 2.5; needed at home, 1.5; temporary, for experience, 1.3; married, 1.2; travel, 1.2; and miscellaneous

[60] R. M. West, "Student Mortality, Student Survival, and Student Accounting," *Problems of College Education*, chapter xvi. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

personal reasons, 0.5. Moon finds finances, health, home conditions, low marks, and dissatisfaction given most frequently as reasons for withdrawal from the University of Chicago.[61] Rogers reports that 21 per cent of the Goucher College class gave no reason for leaving without a degree, while 8.2 per cent were asked to withdraw because of poor work; other reasons for withdrawal ranked low in comparison with the foregoing items.[62] In general, those who left college prematurely were lower in intelligence and academic standing than the average student in the whole class in which the withdrawals were enrolled.

Potthoff and Moon studied the records of the entire group of 762 students who matriculated as freshmen in 1919 at the University of Chicago. The records were followed through until the winter of 1925–26 when more than 99 per cent of the students had graduated or left the university for other causes. Their conclusions are as follows:[63]

1. By the end of a period of six years over 99 per cent of the class had severed all connections with the University, two out of every five having graduated, one out of three having withdrawn in

[61] G. R. Moon, "The Student Who Drops Out of College," *School and Society*, XXVII (May 12, 1928), 576–8.

[62] Agnes L. Rogers, "The Causes of Elimination in Colleges of Liberal Arts for Women," *Educational Administration and Supervision*, XII (March, 1926), 145–54.

Agnes L. Rogers, "A Study of the Causes of Elimination in a College of Liberal Arts for Women," *Studies in Education*, pp. 172–80. Yearbook Number XV of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1926.

[63] E. F. Potthoff and G. R. Moon, "Attendance and Scholarship Records of a Class at the University of Chicago," *Educational Administration and Supervision*, XII (November, 1926), 549–60.

good standing, and one out of four having withdrawn while under scholastic difficulties.

2. The time of greatest mortality fell in the first two years, one-half of those not graduating having left in the first year and three-fourths of this same group having departed by the end of two years.

3. More than one-third of the students in this class made college averages below that required for graduation, and as a result withdrew from the University in other ways, but almost 40 per cent of those who met this standard also withdrew without graduating.

4. The chances for withdrawal while under scholastic difficulties may be predicted to some extent by the high school average and depend directly, of course, upon the college average. The latter factor also seems to influence somewhat withdrawal in good standing since departure by this method decreased as the college average increased.

5. The chances for graduating from the University increase materially as the high school average, the college average, and the time spent in college increase, over 60 per cent of the students who had high school averages of 90 or more, over 60 per cent of those having satisfactory college averages, and almost 75 per cent of those who continued their college work through the first two years finally receiving degrees.

Napier discusses the causes for failure in English, history, and mathematics and presents suggested remedies.[64] Leatherman has prepared a detailed syllabus for the examination of college probation students.[65] Miscellaneous studies of probation, scholastic failure, elimination of teacher-training students, and elimination and retention are found in the chapter bibliography under the names of Hadley, Hatt and McClusky, Ludeman, Marshall, Scates, Smith, and Wood.

[64] T. H. Napier, "The Causes of Student Failures in Normal Schools," *Peabody Journal of Education*, II (July, 1924), 32–8.

[65] Z. E. Leatherman, "Syllabus for the Examination of College Probation Students," *School and Society*, XXIV (July 31, 1926), 139–42.

Disabilities and Diagnostic Testing and Remedial Instruction.—A number of attempts have been made to diagnose the academic deficiencies and shortcomings of students and to eliminate such disabilities through remedial teaching. One of the most interesting and comprehensive of these programs of remedial instruction has been carried forward in the School of Education, Miami University (Ohio), under the direction of Professor W. S. Guiler.[66] The state department of education in Ohio has sponsored a program of diagnostic and remedial instruction as an integral part of teacher-training, because of the academic shortcomings of many graduates who expect to teach in elementary or secondary schools. Students enrolled in teacher-training curriculums who are found deficient in any one of the following subjects are required to pursue remedial work in a "hospital" class until the required standard of proficiency is reached: English (spelling, punctuation, capitalization, hand-writing, sentence structure, and grammatical usage), arithmetic (mechanical abilities and problem solving), geography, and history. The diagnostic tests are administered during freshman week or soon thereafter. Professor Guiler has prepared separate students' work-books[67] in spelling, punctuation, capitalization, sentence structure, and grammatical usage, which make possible an individualized plan of remedial work. He is now preparing similar workbooks in arithmetic and expects later to undertake the organization of such materials in geography and history.

The Presseys report studies of students' shortcomings in the mechanics of English composition, grammatical

[66] W. S. Guiler, "A Program of Diagnostic and Remedial Instruction," *Yearbook of the American Association of Teachers Colleges*, 1927, pp. 39–50.

[67] Hamilton, Ohio: Hill-Brown Printing Co.

terminology, sensitivity to verse form, units of measure, arithmetic, and silent reading.[68] Miscellaneous studies of errors in freshman composition, intelligence tests as an aid in diagnosis of academic difficulties, diagnosis and rehabilitation of probation students, the maladjusted student, and remedial work in reading may be found in the chapter bibliography under the names of Clark, Erffmeyer, Ferguson, Guiler, Jones, Leatherman and Doll, Leiper, Lemon, Potter, Rae and Pressey, Remmers, and Remmers and Stalnaker. Paulu's treatment of diagnostic and remedial work should be of interest to those confronted with such problems, although it was not written primarily with college students in mind.[69]

A bulletin by Reeves and Russell includes a summary of studies of diagnosis and remedial instruction.[70] The topics treated are as follows: reasons why students fail to attain success in college, investigations relating to achievement in the tool subjects, use of the case method for the diagnosis of student difficulties, investigations of the reliability of the student interview as a method of investigation, instruction in the use of the library, efforts to improve ability to read, teaching students how to study, and a special class for freshmen who have failed.

[68] S. L. Pressey, L. C. Pressey, and Others, *Research Adventures in University Teaching*, Section 4. Bloomington, Illinois: Public School Publishing Co., 1927.

Also H. J. Arnold, "Disabilities of College Students in Certain 'Tool Subjects' and the Relation of Such Disabilities to College Standings," *Phi Delta Kappan*, XI (April, 1929), 169–74.

[69] E. M. Paulu, *Diagnostic Testing and Remedial Teaching*. Boston: D. C. Heath and Co., 1924. Pp. xviii + 372.

[70] F. W. Reeves and J. D. Russell, *Some Aspects of Current Efforts to Improve College Instruction*, chapter vii. Bulletin of the Bureau of School Service, I (December, 1928). Lexington, Kentucky: Bureau of School Service, University of Kentucky.

Rating of Teachers by Students and Others.—The foregoing portion of this chapter has been concerned with measurement of student achievement by teachers. It seems appropriate to call attention to a rather pronounced tendency in certain institutions to secure student evaluations of their teachers. In the preceding chapter some space was devoted to consideration of students' attitudes toward courses and teachers.

Douglass concludes on the basis of a canvass of thirty colleges and universities that student opinion is influential in all institutions in rating the teaching efficiency of instructors, although only a few schools were frank enough to mention this fact specifically.[71] In only a few schools are formal evaluations sought from students and scientifically collected and interpreted. Eckhart presents a series of thirty-two questions which the teacher may ask himself in order to determine whether a high level of teaching efficiency is being maintained.[72] Bamberger reports a detailed list of items suggested by forty-eight supervising principals as factors which evidence skill in teaching.[73] She does not suggest the list as a marking or rating system, but recommends it as a survey sheet or check list in the hands of teacher and supervisor to be used in the improvement of teaching. Other treatments of teacher rating by students and others and of rating scales are found in the chapter bibliography under the names of Armentrout, Brandenburg, Fritz, Guthrie,

[71] H. R. Douglass, "Rating the Teaching Effectiveness of College Instructors," *School and Society*, XXVIII (August 18, 1928), 192–7.

[72] C. C. Eckhart, "Faculty Self-Survey and the Improvement of College Teaching," *School and Society*, XXVII (March 17, 1928), 336–8.

[73] Florence E. Bamberger, "A Survey of Observable, Improvable Factors Which Evidence Skill in Teaching," *Elementary School Journal*, XXVIII (November, 1927), 181–5.

Patterson, and Remmers. While most of the discussions cited point out certain values which result from securing student ratings of teachers, attention should be directed to a scathing and sarcastic arraignment of student evaluation of teaching merit.[74] It may be suggested that the present list of discussions of rating scales and teacher rating may be supplemented by the analyses and studies of student teaching and score cards which appear in the chapter bibliography under the names of Helseth, Kinder, Nulton, Sears, Senska, Trow and McLouth, and Waddell.

Freshman Week in Relation to Measurement and Guidance.—It is possible to administer intelligence, aptitude or placement, achievement, and diagnostic tests or any other desired form of examination during freshman week, so as to have the data available for the educational guidance of the freshman in his registration and selection of courses. The possibilities for measurement, orientation, and guidance are numerous during this period; certain of these opportunities will be indicated in the subsequent discussion of a typical freshman-week program.[75]

The college freshman of today enters upon a complex life that involves a large number of new adjustments. In too many instances the student finds it necessary to become adjusted to college life through a trial and error process which is costly in terms of academic progress and social efficiency. When colleges and universities were small the problem of orienting the freshman was not great, since he soon became acquainted with the two or three hundred students and the score or more

[74] "Grading the Professors," *School and Society*, XXVIII (September 15, 1928), 311–4.

[75] Carter V. Good, "Freshman Week at Miami University," *School and Society*, XXIV (November 13, 1926), 614–5.

instructors. Within a decade or two many of these same institutions have grown to include a score of buildings, more than one hundred instructors, and fifteen hundred or more students. The freshman who enters such an institution needs considerable guidance in adjusting himself effectively to the new and complex situations of college life. A freshman week is one means of administering this guidance.

Like many other colleges and universities, Miami University (Ohio) has experienced a rapid growth during recent years. This means that each year it has become increasingly difficult to give adequate attention to the comparatively large number of freshmen entering college, when, at the same time, upper classmen were demanding considerable attention from the faculty. The solution of the problem seemed to be a period of time set apart as freshman week when only freshmen would be present at the university and therefore receive all of the time and attention of the faculty. The week beginning Monday, September 13, 1926, was set aside for the purpose of initiating this program. It was definitely understood that upper classmen were not expected to be present during the first four days of this week. The situation for the freshmen was not to be complicated by fraternity and sorority "rushing." Any violation of the "rushing" rule was to be punished by an adequate penalty.

Approximately seven hundred freshmen were anticipated for the year 1926-27. These students were to be divided into twenty-five groups on the basis of their academic interests. A competent leader, faculty assistant, and student assistant were in charge of each group. Each group included approximately twenty-five freshmen; in some instances the number was larger. As a rule, men and women were in seperate groups. The number

of groups in each college of the university was as follows: liberal arts men (10), liberal arts women (2), bachelor of science men (2), bachelor of science women (5), bachelor of science men and women (1), and teachers-college women in two-year elementary teachers course (5). In some instances it was necessary to combine both men and women in a given group when their interests were similar and it did not seem feasible to form two smaller groups on the basis of sex. The freshman on entrance was given a card which assigned him to a group.

It was the duty of the group leader or his assistant to remain with his section through all its assignments and to escort the section to each appointment. Important duties of the group leader and assistant were: (1) to become acquainted personally with each student and to find what work of the university was best suited to the needs, interests, and abilities of the given student; (2) to arrange in conference with the student the curriculum and subjects to be studied; (3) to deliver lectures in the scheduled group meetings of such a nature as to give advice on matters of interest to the entering student. The group leaders were asked to cover the following items in their group lectures and discussions: purpose of the psychological tests and entrance examinations; preliminary registration; conservation of time and money; college expenses; methods of study, taking notes, tests, and examinations; college rules and regulations, absences, academic requirements, marks, and probation; college honors (scholastic, athletic, etc.), eligibility for honors and student activities, and student activities; tour of the campus; and library inspection.

Periods for recreation and social activities were included in the program. General lectures were delivered by representative officers of the university: the president,

dean, dean of women, physical education director, and Y. M. C. A. director.

The same program has been continued each fall at Miami University with few major changes since 1926. Certainly during freshman week many things are accomplished that otherwise would be brought about incidentally at a later date in the school life of the freshman or not at all.

Stoddard and Freden report from a study of eighty-four large colleges and universities that twenty-seven of these institutions or 32 per cent have freshman week; twenty-one institutions or 25 per cent have definite plans for the inauguration of freshman week; and thirteen schools or 16 per cent are considering the matter.[76] Maxwell finds from a study of sixty-four institutions that twenty-five have freshman week; six have freshman day; eleven expect soon to establish freshman week; and thirty-three have no such plan.[77] A number of other descriptions and discussions of freshman week are of interest for their statement of the practices in certain institutions.[78]

[76] G. D. Stoddard and G. Freden, "The Status of Freshman Week in Large Universities," *School and Society*, XXIV (November 6, 1926), 586–9.

[77] C. R. Maxwell, "Methods by Which Institutions of Higher Learning Adapt Their Work to the Needs of Freshmen," *North Central Association Quarterly*, II (December, 1927), 307–28.

[78] H. M. Ellis, "Freshman Week at the University of Maine," *School and Society*, XXIV (July 24, 1926), 110–1.

"Freshman Week at the University of Maine," *School and Society*, XXI (January 3, 1925), 23–5.

E. K. Hillbrand, "Freshman Week in a Small College," *School and Society*, XXV (May 7, 1927), 541–3.

C. C. Little, "Freshman Week," *School and Society*, XXIV (December 18, 1926), 765–6.

"Freshman Week at the University of Minnesota," *School and Society*, XXIII (March 6, 1926), 304–5.

Orientation Courses.—Of course it is not possible to make more than a beginning in the work of adjustment during freshman week. Many institutions provide orientation courses in which this work is continued. A helpful description of the purposes and types of existing orientation courses is found in the 1929 yearbook of the National Society of College Teachers of Education.[79]

Recognition that conditions prescribed for college entrance are inadequate to guarantee perfect college risks and that student difficulties may lie partly with the college curriculum itself is evidenced in the growth of orientation courses. Half of all colleges reporting on details of educational improvement indicate the adoption of such courses, which for the most part are available for all Freshmen. In a smaller number of instances orientation courses are designed for pre-engineering, prebusiness, prelaw, premedicine, or pre-education students.

The length and contents of orientation courses are variables. The total course in some colleges consists of a half-dozen lectures, given during a single week or at intervals throughout a term or year. In such cases the "orientation course" is little if any more than the orientation lectures given during Freshman Week. In other colleges, an entire semester or even a year is devoted to a thoroughgoing course that is designed to represent numerous and diverse fields of knowledge and to achieve some degree of integration of the highly specialized world of ideas into an understandable whole. Some claim is made that the fields of science have more readily yielded to programs of integration than have other large fields such as language or the social sciences.

The aim of orientation courses is to fit the immature student to find his way about in the realm of knowledge, to tap the springs of his interest, to develop a balance of understanding of the complicated world. As such they are intended to serve a general educational rather than a vocational function, although it is expected that they will qualify the student better to make a choice of his

[79] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, pp. 17–8. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

life-career. The curriculum has been made by selecting material from various fields of knowledge and combining it into a course designed to give an intelligible picture of modern life. At some institutions, notably at Columbia and Chicago, these new courses have resulted in producing one or more treatises which are used as the textbooks of the course. In one large university the burden of the course is carried in lectures by outstanding scholars—the leading men on the staff in the several fields covered—supplemented by recitations and conferences under the guidance of younger men. In another institution, the entire course is in the hands of younger men selected for ability to teach and to stimulate intellectual interest among students.

Blackburn reports from a study of 150 schools with enrollments between 300 and 1,200 that seventy-three offer orientation courses.[80] Ewing indicates that about 50 per cent of the junior colleges canvassed in his study provide orientation courses.[81] Boucher reports the status of orientation and survey courses in 250 colleges and universities.[82] The results show that fifty-seven schools have orientation courses of some type in the freshman year and expect to continue the work in that year; eighteen have shifted the course from the freshman year to a later period or plan to make such a change; eighty institutions are interested to the extent of having committees at work on orientation courses; fourty-two are deeply interested but have not yet appointed com-

[80] G. A. Blackburn, "The Orientation of College Freshman," *Education*, XLIX (September, 1928), 26–33.

[81] W. F. Ewing and Others, "The Junior College Curriculum with Special Reference to Orientation Courses," *The Development of the High School Curriculum*, chapter xi. Sixth Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1928.

[82] C. S. Boucher, "Orientation and Survey Courses at the University of Chicago," *School and Society*, XXVII (June 23, 1928), 760–1.

mittees to study the problem; and only twenty-six schools report that they are not interested in orientation courses.

Other discussions of orientation courses and programs may be found in the chapter bibliography under the names of Doerman, Fitts and Swift, Gaus, Johnston, Kelly, Paterson, Pruette, and Wilkins.

Personnel and Advisory Relationships and Educational and Vocational Guidance.—The literature in this field is so extensive that it is possible at this time only to mention a selected group of studies and investigations. Myers has prepared a helpful treatment of vocational and educational guidance in elementary and secondary schools and in colleges and universities.[83] In the volume edited by Hudelson are discussions of student counseling, mental hygiene, student health, control of student life, and extra-curricular activities.[84] R. L. Kelly includes in his collection of papers and addresses four chapters on faculty-student relationships and personnel techniques.[85] F. J. Kelly's survey of liberal-arts institutions

[83] G. E. Myers, *The Problem of Vocational Guidance.* New York: Macmillan Co., 1927. Pp. viii + 312.

Also I. D. Cohen, *Principles and Practices of Vocational Guidance.* New York: Century Co., 1929. Pp. xxiv + 472.

[84] D. G. Paterson, Smiley Blanton, F. M. Rarig, H. S. Diehl, Anna D. Blitz, and F. S. Chapin, "Student Personnel," *Problems of College Education,* chapters xxii, xxiv–xxviii. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Also Lila McNutt, "Psychiatric Social Work in the La Salle-Peru-Oglesby Junior College," *Mental Hygiene,* XIII (April, 1929), 271–7.

K. F. Muenzinger, "The Psychology of Readjustment, with Special Reference to Mental-Hygiene Work in College," *Mental Hygiene,* XIII (April, 1929), 250–62.

[85] E. H. Wilkins, C. C. Little, A. L. Jones, and Raymond Walters, "Faculty-Student Relationships," *The Effective College,*

includes discussions of educational guidance and extra-curricular life in college.[86] Numerous other treatments of college personnel and guidance problems are listed in the chapter bibliography under the names of Ball, Barr, Bennett, Bickham, Blake, Book, Brewer, Brotemarkle, Butterfield and Woelfel, Carlton, Cleeton, Clippinger, Coffman, Crawford, Creager, Cunliffe, Earp, Edwards and others, Elliff, Fryer, Fronabarger, Garrison, Gaw, Godfrey, Good, Hall, Harper, Hartson, Hawkes, Hodges, Holaday, Hopkins, Howard, Hughes, Husband, Jones, Little, Mathiasen, Maverick, Metcalf, Miner, Paterson, Pratt, Robertson, Rose, Scott, Seashore, Stone, Strong, Thornhill and Landis, Toops, Walters, Warner, and White.

While the general tenor of the discussions listed in the foregoing paragraph is favorable to the expansion of personnel and guidance facilities, a pertinent question is raised with respect to whether the great increase in advisory agencies is accompanied by a correspondingly large increment in the effectiveness of student adjustment and guidance.[87]

> It is far from clear that the multiplication of agencies for student counsel has really helped the student. Doubtless his way has been cleared of a few surface hindrances to facile adjustment to the college situation. For the more difficult task of the choice of a

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chapters vii–x. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

Also D. T. Howard, "The Personnel Department," *Higher Education in America*, Part II, chapter iv. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

G. F. Zook, "Student Records and Accounting," *Higher Education in America*, Part II, chapter iii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

[86] F. J. Kelly, *The American Arts College*, chapters iv, vii. New York: Macmillan Co., 1925.

[87] W. S. Gray and Others, *op. cit.*, pp. 15–6.

life-work, the selection and development of useful contacts and friendships, and the mastery of knowledge requisite to the successful pursuit of a complex occupation, most of the agencies for advice have less to offer than their number and variety would imply to be the case. The danger exists that the multiplication of counseling activities may, by diverting attention from profound problems to surface matters, defeat the fundamental aim of educational guidance. Nothing has yet been offered as an effective substitute for the college curriculum and the teaching faculty in the more basic matters of guidance. The latter are the agencies that open up to the student the world of knowledge and skill and give him the means of finding his way about in the world of ideas. Contact with them furnishes the student with the best means of self-appraisal, and places him in conscious command of his own resources and limitations. Counseling agencies can only be useful in so far as they aid the student into and through this major agency of educational guidance.

Reeves and Russell have provided a useful summary of studies of guidance in higher institutions.[88] Although certain of the topics listed at this time were mentioned in a preceding discussion of diagnostic and remedial instruction, it seems advisable to enumerate the complete list of problems treated by Reeves and Russell under the heading of diagnosis, remedial instruction, and educational guidance. The studies summarized involve: reasons why students fail to attain success in college, investigations relating to achievement in tool subjects, use of the case method for the diagnosis of student difficulties, investigations of the reliability of the student interview as a method of investigation, methods of advising students, instruction in the use of the library, efforts to improve ability to read, teaching students how to study, the use of freshman week for purposes of student guidance, comprehensive programs of educational guidance for students, and a special class for freshmen who have failed.

[88] F. W. Reeves and J. D. Russell, *op. cit.*, chapter vii.

The Work of the Dean.—In view of the important part played by deans and administrative officers in programs of measurement and guidance, it seems appropriate to refer to a number of selected studies and discussions of the work of such officers. Treatments of teachers-college deans, student advisers, women deans in colleges and universities, deans and advisers of women and girls, deans of women in teachers colleges and normal schools, and professional courses for deans of women, as well as bibliographies of the literature for deans and advisers of women and girls, are listed in the chapter bibliography under the names of Brown, Collier, Good, Greenough, Jones, Knight, Pierce, Stone, Sturtevant, Sturtevant and Hayes, and Sturtevant and Strang.

Summary Statement.—In this chapter various aspects of the measurement of achievement and instruction in college have been discussed: marks and examinations, distribution of marks, scholarship standards, new-type tests, standard tests, honor system, relation between college achievement and intelligence, relation between college marks and high school marks, relation between college achievement and vocational success, scholarship in relation to sex and other miscellaneous factors, prediction of scholastic success, disabilities, and diagnosis and remedial work. Other aspects of measurement which have a direct bearing on measurement of achievement have been considered: intelligence tests, aptitude and placement tests, and college entrance examinations and selection of students. Certain related problems of personnel relationships and guidance have been treated along with the discussion of measurement: freshman week, orientation courses, educational and vocational guidance, probation, failure and elimination, faculty rating, and the work of advisers, deans, and personnel officers. The next and last chapter will be devoted to a

discussion of the improvement of college teaching and to a statement of reorganizations and adjustments under way in higher education.

Supplementary References

Anderson, J. E. "Intelligence Tests of Yale Freshmen," *School and Society*, XI (April 3, 1920), 417–20.

Arlitt, A. H., and Hall, M. "Intelligence Tests vs. Entrance Examinations as a Means of Predicting Success in College," *Journal of Applied Psychology*, VII (December, 1923), 330–8.

Armentrout, W. D. "The Rating of Teachers by Training Teachers and Superintendents," *Elementary School Journal*, XXVIII (March, 1928), 511–6.
The training teachers rated the teachers during their period of student teaching at the Colorado State Teachers College, while the superintendents rated them during the year following their graduation from this institution.

Arnold, H. L. "Analysis of Discrepancies Between True-False and Simple Recall Examinations," *Journal of Educational Psychology*, XVIII (September, 1927), 414–20.
An investigation conducted in an attempt to specify and analyze discrepancies between the true-false and the simple recall examination; the important conclusion drawn is that the validity of the true-false examination as compared with the simple recall depends upon the objectives of the examiner.

Averill, L. A. "A Mental Survey of Fifty-Nine Normal School Students; Some Correlations and Criticisms," *Journal of Educational Research*, VII (April, 1923), 331–7.

Averill, L. A., and Mueller, A. D. "Some Results of Intelligence Tests and Achievement Tests in English Given to Entering Normal School Students," *Educational Administration and Supervision*, XIII (January, 1927), 20–5.
The data for this study consist of results secured from administering the Otis Intelligence Test, and the Cross English and Inglis vocabulary tests to 114 students.

Baird, James, and Bates, Guy. "The Basis of Teacher Rating," *Educational Administration and Supervision*, XV (March, 1929), 175–83.

Ball, M. "Introducing Freshmen to Scholarship," *School and Society*, XVII (February 24, 1923), 205–8.

Banker, H. J. "A Student's Ability Index from Teachers' Marks," *Journal of Educational Research*, XVII (May, 1928), 357–64.
A detailed derivation and discussion of a formula.

Barr, A. S. "Getting Acquainted with College Students," *School and Society*, XIII (May 14, 1921), 580–1.

Bathurst, J. E., and Scheidemann, Norma V "The College Psychology Test," *Journal of Applied Psychology*, XIII (February, 1929), 81–5.
Describes an objective test for first-year psychology in liberal-arts colleges.

Bayne, T. L. "A Study of the Prediction of Success in College." Unpublished Doctor's thesis, Cornell University, 1926.

Bear, R. M. "Factors Affecting the Success of College Freshmen," *Journal of Applied Psychology*, XII (October, 1928), 517–23.
Compares ratings on the Otis Higher Examination and academic work with father's occupation, type of course entered, athletic participation, home state, C.A.; includes 172 students.

Beatley, Bancroft. "The Relative Standing of Students in Secondary School, on Comprehensive Entrance Examinations, and in College," *School Review*, XXX (February, 1922), 141–7.

Bennett, G. V. *Vocational Education of Junior College Grade*. Baltimore: Warwick and York, 1928. Pp. 240.

Bennett, R. D. "Policies of State Universities in Reporting Students' Marks," *Educational Research Bulletin*, VII (April 18, 1928), 155–8. Columbus, Ohio: Bureau of Educational Research, Ohio State University.
Based on information secured from catalogues, bulletins, student manuals, and personal letters received from twenty-five institutions.

Benson, C. E. "The Results of the Army Alpha Test in a Teacher-Training Institution," *Educational Administration and Supervision*, VII (October, 1921), 348–9.

Bickham, M. H. "Techniques for Studying College Students," *Religious Education*, XXIII (March, 1928), 220–7.
Discusses questionnaire method, investigation of student records, surveys of college community, case work, testing, and trait analysis.

Binneweis, W. G. "Freshmen Grades and Mental Tests," *Educational Administration and Supervision*, IX (March, 1923), 161–2.

Bird, Charles. "The Detection of Cheating in Objective Examinations," *School and Society*, XXV (February 26, 1927), 261–2. Describes a method by which cheating on objective tests may be detected easily.

Blackhurst, J. H. "Normal Curve as Related to High School and College Grading," *School and Society*, XIII (April 9, 1921), 447–50.

Blake, M. B. *Guidance in Colleges for Women.* New York: D. Appleton and Co., 1926. Pp. 286.

Bohan, J. E. "Students' Marks in University Courses." Unpublished Doctor's thesis, University of Minnesota, 1926.

Book, W. F. "An Efficient Method for Measuring the Results of Instruction in Colleges and Schools," *Bulletin of the Extension Division*, Vol. VI, No. 12. Bloomington, Indiana: Indiana University, 1921. Pp. 18–34.

Book, W. F. *How to Succeed in College.* Baltimore: Warwick and York, 1927. Pp. 192.

Bott, E. A. "Predictive Value of College Marks in Medical Subjects," *Journal of Educational Research*, XII (October, 1925), 214–27.

Bovard, J. F., and Cozens, F. W. *Tests and Measurements in Physical Education* 1861–1925. University of Oregon Physical Education Series, Vol. 1, No. 1. Eugene, Oregon: University of Oregon, 1926. Pp. 94.

Bovée, A. G. "A Suggested Score Card for Attainment in Pronunciation," *Modern Language Journal*, X (October, 1925), 15–9.
Reproduces score card for use in testing French pronunciation.

Boynton, P. L. "A Study of the Relationship between the Intelligence and Moral Judgments of College Students." Unpublished Doctor's thesis, George Peabody College for Teachers, 1927.

Bradshaw, O. S. "Admission Requirements of Public Teacher-Training Institutions of the United States." Unpublished Doctor's thesis, New York University 1926.

Brandenburg, G. C., and Remmers, H. H. The Purdue Rating Scale for Instructors. Lafayette, Indiana: Lafayette Printing Co.

Brandenburg, G. C., and Remmers, H. H. "Rating Scales for Instructors," *Educational Administration and Supervision*, XIII (September, 1927), 399–406.
Reproduces a rating scale devised at Purdue University to measure teaching efficiency by students' ratings.

Branom, M. E. *The Measurement of Achievement in Geography.* New York: Macmillan Co., 1925. Pp. 188.

Breeze, R. E. "Correcting Examination Papers," *School Review,* XXXIII (January, 1925), 57–61.
Results are given for two experiments made to determine the relative value of calling attention to errors made on examination papers in discussing the examination papers, and not calling attention to errors before a discussion of the examination.

Breitwieser, J. V. *The Thorndike College Entrance Tests in the University of California.* Berkeley, California, 1922. Pp. 18.

Brewer, J. M. "The Need for Vocational Guidance in Colleges," *School and Society,* XI (May 1, 1920), 511–7.

Brewer, J. M. "A Study of Examinations in Graduate Courses in Education," *Educational Record,* IX (October, 1928), 225–41.
An analysis of recent examinations at Harvard.

Brewer, J. M. "The Task of Vocational Guidance," *Teachers College Record,* XXX (April, 1929), 693–702.

Brewer, J. M., and Others. *Case Studies in Educational and Vocational Guidance.* Boston: Ginn and Co., 1926. Pp. 244.

Bridges, J. W. "The Value of Intelligence Tests in Universities," *School and Society,* XV (March 18, 1922), 295–303.

Brigham, C. C. "Discovering Scholastic Aptitudes," *Association of American Colleges Bulletin,* XIV (April, 1928), 163–70.
Discusses the value of psychological tests in determining scholastic aptitude.

Brooks, W. S. "Who Can Succeed in College?" *School and Society,* XIX (April 12, 1924), 423–7.

Broom, M. E. "The Predictive Value of Three Specified Factors for Success in Practice-Teaching," *Educational Administration and Supervision,* XV (January, 1929), 25–9.
Data include marks in education theory courses, marks in practice teaching, scores on the Thorndike Intelligence Examination, and decile ranks on the trade information section of the Thorndike Intelligence Examination for 148 students.

Brotemarkle, R. A. "College Student Personnel Problems," *Journal of Applied Psychology,* XI (December, 1927), 415–36; XII (February, 1928), 1–42.
Includes reproductions of records used in student personnel work.

Brown, C. A., and McKee, J. H. "Prolegomena to a New Spelling Test," *English Journal*, College Edition, XVII (October, 1928), 651–8.
Lists difficulties encountered in encouraging university students to spell respectably and lists types of words misspelled frequently.

Brown, R. W. *Dean Briggs.* New York: Harper and Bros., 1926. Pp. 332.

Brownell, H. C. "Mental Test Traits of College Cribbers," *School and Society*, XXVII (June 23, 1928), 764.
Presents data secured from thirty uncaught cheaters on final examinations.

Butterfield, Helen, and Woelfel, Norman. "A Study of Students' Reasons for Undertaking the Life Work of a Kindergarten-Primary Teacher," *Childhood Education*, IV (April, 1928), 381–6.
Presents data secured from eleven schools.

Carlton, F. T. "Personnel Problems in the College," *Educational Review*, LXV (March, 1923), 173–5.

Carmichael, O. C. "Distribution of College Grades," *School and Society*, XXIII (February 20, 1926), 246–8.
An investigation of marking in twelve Alabama institutions, pointing out the absence of, and advantages of, a uniform marking system.

Carothers, F. E. *Psychological Examinations of College Students.* Archives of Psychology, No. 46. New York: Columbia University, 1921. Pp. 82.

Carter, T. M. "A Standardized Mental Test vs. an Unstandardized English Test as a Means of Predicting Success in College English," *School and Society*, XXVI (July 30, 1927), 151–2.
Gives methods used and correlations obtained between college grades and (1) mental tests, (2) preliminary English test.

Carter, T. M. "What College Students Think with Respect to Cheating in Examination," *Phi Delta Kappan*, XI (June, 1928), 3–10.
Data secured by the questionnaire method from 443 students at Albion College.

Cavins, L. V. "Experiment with Standardized Tests in a State Teachers' Examination," *Journal of Educational Research*, XIV (October, 1926), 206–12.

Chambers, G. G. "Intelligence Examinations and Admission to College," *Educational Review*, LXI (February, 1921), 128–37.

Chapman, J. C. "The Individual Injustice and Guessing in the True-False Examination," *Journal of Applied Psychology*, VI (December, 1922), 342–8.

Charters, W. W. "Predicting Success in College," *Educational Research Bulletin*, VIII (May 1, 1929), 194. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

Cheydleur, F. D. "The Construction and Validation of a French Grammar Test of the Selection or Multiple-Choice Type," *Journal of Educational Research*, XVII (March, 1928), 184–96. Presents data secured in the University of Wisconsin and in high schools.

Cheydleur, F. D. "Results and Significance of the New Type of Modern Language Tests," *Modern Language Journal*, XII (April, 1928), 513–31.
Includes discussions of the Henmon French Tests, the Columbia Research Bureau Tests, the Iowa Placement Examinations, and the American Council Tests.

Clark, E. L. "Family Background and College Success," *School and Society*, XXV (February 19, 1927), 237–8.

Clark, E. L. "Selection of Freshmen at Northwestern University College of Liberal Arts," *Educational Record*, VIII (April, 1927), 122–8.

Clark, Harriet M. "Errors in Freshman Composition," *English Journal*, College Edition, XVIII (January, 1929), 32–4.
Based in part on the themes of one hundred freshmen at the beginning and end of the year.

Clark, W. W. "Status of University Students in Relation to High-School Courses," *Journal of Educational Research*, XIII (January, 1926), 36–8.

Cleeton, G. U. "Meeting the Need for Improved Measures to be Used in the College Guidance Program," *Educational Administration and Supervision*, XI (October, 1925), 489–94.

Clement, J. A. "Use of Mental Tests as a Supplementary Method for Making School Adjustments in Colleges," *Educational Administration and Supervision*, VI (November, 1920), 433–44.

Clement, J. A., and Smythe, W. E. "Intelligence Tests and the Marks of Scholarship Men in College," *Educational Administration and Supervision*, VII (December, 1921), 510–6.

Clippinger, W. G. *Student Relationships*. New York: Thomas Nelson and Sons, 1926. Pp. xiv + 146.
A series of lectures to students on personal, social, and religious problems.

Coffman, L. D. "Major Problems of the Freshman Year," *Bulletin of the American Association of University Professors*, XI (May, 1925), 237–9.

Collier, C. B. *The Dean of the State Teachers College.* Peabody Contributions to Education, No. 24. Nashville, Tennessee: George Peabody College for Teachers, 1926.

Colvin, S. S. *Methods and Results of Psychological Tests Given at Brown University*, 1918–1923. Brown University Bulletin. Providence, Rhode Island: Brown University, 1923.

Colvin, S. S. "Validity of Psychological Tests for College Entrance," *Educational Review*, LX (June, 1920), 7–17.
Correlations between the results of group intelligence tests given at Brown University and marks received are calculated.

Cook, N. E., and Others. "Do Scores on Aptitude Tests Predict Success or Failure of Phoenix Junior College Students in Specific Subjects?" *Phi Delta Kappan*, XI (December, 1928), 120–3.
Utilized the Iowa Placement Examinations.

Courtis, S. A. "The Measurement of the Effect of Teaching," *School and Society*, XXVIII (July 14, 1928), 52–6; XXVIII (July 21, 1928), 84–8.
A statistical treatment and analysis of data secured from objective tests used to measure the effects of teaching.

Cowdery, K. M. "Repeated Thorndike Intelligence Examinations," *School and Society*, XXVII (March 24, 1928), 367–9.
Includes data from retests of 207 members of a class in beginning psychology at Stanford University.

Cozens, F. W. "The Measurement of General Athletic Ability in College Men," *American Physical Education Review*, XXXIII (December, 1928), 634–8.
Discusses the construction of the tests.

Crawford, A. B. "Extra-Curriculum Activities and Academic Work," *Personnel Journal*, VII (August, 1928), 121–9.
Reports for 2,643 Yale undergraduates the amount of time students say they spend on study, amount of time devoted to extra-curriculum activities, etc.

Crawford, C. C., and Raynaldo, D. A. "Some Experimental Comparisons of True-False Tests and Traditional Examinations," *School Review*, XXXIII (November, 1925), 698–706.
An experimental and statistical comparison of two types of measurement in foreign languages, studying printed matter, and lectures.

Creager, J. O. "The Professional Guidance of Students in Schools of Education in State Universities," *Educational Administration and Supervision*, XIII (March, 1927), 192–9.

Cunliffe, R. B. "A Selected Bibliography of Educational and Vocational Guidance," *Vocational Guidance and Vocational Education for the Industries*, pp. 191–8. Twenty-Third Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1924.
Covers the period, 1907–1924.

Cunliffe, R. B. "Why This Career? Significance of Vocational Information in Decisions of College Students," *Personnel Journal*, VII (February, 1929), 376–84.
Includes a list of twenty factors influencing the vocational decisions of 533 college students.

Dagney, S. "Intelligence Tests and Collegiate Selection," *School and Society*, XV (May 27, 1922), 593–5.

Dana, F. C. "Report of Committee Number 30, Orientation and Engineering Problems Courses," *Journal of Engineering Education*, XVIII (February, 1928), 641–50.

Deutsch, B. "The Social Aspect of College Entrance Restriction," *Education*, XLVII (January, 1927), 272–9.

Diehl, C. E. "More Vital and Reasonable Methods of Educational Measurement," *Association of American Colleges Bulletin*, XV (May, 1929), 250–9.

Doerman, H. J. *The Orientation of College Freshmen*. Baltimore: Williams and Wilkins Co., 1926. Pp. 162.
Includes statements of what is done in representative colleges, mechanical plans used in orientation work, and detailed guidance programs.

Doherty, Margaret. "Testing in Geography: A Selected Bibliography," *Educational Research Bulletin*, II (April 4, 1923), 108–9. Columbus, Ohio: Bureau of Educational Research, Ohio State University.
Covers the period, 1914–1923.

Douglass, H. R., and Spencer, P. L. "Is it Necessary to Weight Exercises in Standard Tests?" *Journal of Educational Psychology*, XIV (February, 1923), 109–12.

Earp, J. R. "Tobacco and Scholarship," *Scientific Monthly*, XXVI (April, 1928), 335–7.
Summarizes related investigations and reports data secured from Antioch College students.

Edwards, R. H., Artman, J. M., and Fisher, G. M. *Undergraduates:* A Study of Morale in Twenty-Three American Colleges and Universities. New York: Doubleday, Doran and Co., 1928. Pp. 370.

Eells, W. C. "College and University Grading with Special Reference to Intelligence Tests." Unpublished Doctor's thesis, Stanford University, 1927.

Ellefson, E. T. "Predicting College Freshman Scholarship," *California Quarterly of Secondary Education*, III (January, 1928), 179–85.
Data based on 134 cases.

Elliff, J. D. "Vocational Guidance Needed in Universities," *High School Quarterly*, XIII (July, 1925), 231–5.

Ellis, R. S. "A Comparison of the Scores of College Freshmen and Seniors on Psychological Tests," *School and Society*, XXIII (March 6, 1926), 310–2.
Treats elimination, improvement of scores on mental tests, and distribution of marks.

Ellis, R. S. "The Correction of Constant Errors in College Marks," *School and Society*, XXIV (October 2, 1926), 432–6.
Includes data on variations in marks and suggests a method of reducing materially such differences.

Ellis, R. S. *Standardizing Teachers' Examinations and the Distribution of Class Marks.* Bloomington, Illinois: Public School Publishing Co., 1927. Pp. 170.

Erffmeyer, C. E. "Intelligence Tests as an Aid in the Diagnosis of Academic Maladies," *School and Society*, XX (September 6, 1924), 317–20.

Erffmeyer, C. E. "Some Uses of Intelligence Tests in College and University." Unpublished Doctor's thesis, Ohio State University, 1925.

Ernst, J. L. "Psychological Tests vs. the First Semester's Grades as a Means of Academic Prediction," *School and Society*, XVIII (October 6, 1923), 419–20.
Covers 122 cases of juniors and seniors; their intelligence test scores secured when freshmen were correlated with their academic records for two and one-half or three and one-half years.

Evans, Florence. *Guidance in the Selection of a College.* Philadelphia: Public Education and Child Labor Association of Pennsylvania, 1925. Pp. 122.

Fenton, Norman. "An Objective Study of Student Honesty During Examinations," *School and Society*, XXVI (September 10, 1927), 341–4.
Covers ninety-four cases in an institution which does not have the honor system.

Fenton, Norman, and Lehman, H. C. "The True-False Question and the Student's Sense of Fairness," *School and Society*, XXVIII (July 28, 1928), 115–6.
Reports an experiment in which students were allowed to qualify answers which appeared ambiguous.

Ferguson, Jessie. "The Diagnosis and Rehabilitation of Probation Students." Unpublished Doctor's thesis, Ohio State University, 1927.

Ferguson, Jessie. "Probation Students under Guidance," *Educational Review*, LXXV (April, 1928), 224–8.
The study includes forty-six students of low achievement who were given special attention in the form of study schedules, diagnostic tests, lecture hours, laboratory periods, and individual treatment.

Fernberger, S. W. "Bluffing in Examinations," *American Journal of Psychology*, XXXVIII (January, 1927), 155–6.
An experiment in a class of twenty-nine students at the University of Pennsylvania.

Fiske, T. S. *The Work of the College Entrance Examination Board.* Boston: Ginn and Co., 1926. Pp. x + 300.

Fitts, C. T., and Swift, F. H. "The Construction of Orientation Courses for College Freshmen," *University of California Publications in Education*, Vol. II, No. 3, pp. 149–250.
Berkeley, California: University of California Press, 1928.

Flinner, I. A. "Rating Students on the Basis of Native Capacity and Accomplishment," *National Education Association Addresses and Proceedings*, 1922, pp. 839–49.

Fort, L. M. "College-Admission Requirements in the North Central Association," *School Review*, XXXI (November, 1923), 680–4.

Friedl, B. C. "A Study in Foreign Language Prognosis," *Modern Language Journal*, XI (February, 1927), 298–314.
Describes an experiment in which a general prognosis test, intended for use in any foreign language, was used.

Fritz, M. F. "The Variability of Judgment in the Rating of Teachers by Students," *Educational Administration and Supervision*, XII (December, 1926), 630–4.

Fronabarger, B. F. "Vocational Guidance for State Teachers' Colleges, with Particular Application to the State of Texas." Unpublished Doctor's thesis, Harvard University, 1926.

Fryer, Douglas. "Interest and Ability in Educational Guidance," *Journal of Educational Research*, XVI (June, 1927), 27–39.

Gambrill, B. L. *College Achievement and Vocational Efficiency.* Teachers College Contributions to Education, No. 121. New York: Teachers College, Columbia University, 1922. Pp. 100.

Garrison, K. C. "Intelligence Test Scores and Choice of Major Field," *School and Society*, XXVIII (November 17, 1928), 630–2.
Reports results secured from 345 college students who took the Otis test and makes comparisons with majors pursued in college.

Gaus, J. M. "Initiatory Courses for College Freshmen," *American Review*, II (November, 1924), 640–6.

Gaw, Esther A. "Occupational Interests of College Women," *Personnel Journal*, VII (August, 1928), 111–4.
Freyd Occupational Interest Blank was given to 191 freshmen and a year later repeated in the cases of 105 of the same women as sophomores.

Gaw, Esther A. "College Grades," *School and Society*, XXIV (November 20, 1926), 648–51.

Godfrey, G. H. "Recasting Courses and Personnel Work at Oregon," *School and Society*, XXVIII (November 17, 1928), 623–5.
Describes various types of reorganization at Oregon.

Good, C. V. "The Administration and Supervision of Students by Advisors in a Teacher-Training Institution," *Educational Administration and Supervision*, XII (March, 1926), 161–9.

Good, C. V. "The Variables of the Senior High School Curriculum and the College-Entrance Problem," *School Review*, XXXV (November, 1927), 686–91.
Presents data on the diversified programs followed by many pupils in high school and the problems faced by the college in attempting to adjust its work to individuals with varying types of preparation.

Gordon, W. E. "The Validity of the New York State Regents' Examinations in the Social Studies, with Special Reference to Objective Examination Methods." Unpublished Doctor's thesis, University of Iowa, 1926.

Gott, Charles. "College-Entrance Standards in English," *English Journal*, College Edition, XVII (October, 1928), 646–51.
Report of a committee on coordination.

Gowen, J. W., and Gooch, M. "Mental Attainments of College Students in Relation to the Preparatory School and Heredity," *Journal of Educational Psychology*, XVII (September, 1926), 408–18.

Greene, E. B. "Achievement and Confidence on True-False Tests of College Students," *Journal of Abnormal and Social Psychology*, XXIII (January-March, 1929), 467–78.

Greenough, C. H. "The Student Council and the Dean at Harvard," *School and Society*, XXVII (May 5, 1928), 527–9.
Describes the cooperative spirit which exists between the student council and faculty at Harvard.

Griffin, H. D. "Safeguarding the Final Examination," *School and Society*, XXIII (March 13, 1926), 342–4.
Describes a method by which examinations may be prepared and administered in such a way that copying from the papers of others is virtually impossible.

Gufler, Augusta, and Dyer, Annie R. "College Entrance Credit for High School Home Economics," *Journal of Home Economics*, XX (June, 1928), 399–403.
Based on reports from 132 high-school systems.

Guiler, W. S. "Diagnosing Student Shortcomings in English Composition," *Journal of Educational Research*, XIV (September, 1926), 112–9.
Shows the value of diagnostic tests in discovering learning difficulties.

Guiler, W. S. "Selective Value of Mental Tests," *Elementary School Journal*, XXVI (October, 1925), 112–5.

Gundlach, Ralph. "A Method for the Detection of Cheating in College Examinations," *School and Society*, XXII (August 15, 1925), 215–6.
Reports a study of the amount of copying on true-false tests and recommends a method of detection.

Guthrie, E. R. "Measuring Student Opinion of Teachers," *School and Society*, XXV (February 5, 1927), 175–6.

Hadley, Lawrence. *A Report on the Progress of a Study of Sophomores on Probation for Scholastic Failure.* Educational Reference Circular, No. 2. Lafeyette, Indiana: Purdue University, 1927. Pp. 22.

Haggerty, M. E. "Student Ability and Its Measurement," *Problems of College Education*, chapter xvii. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Hall, A. B. "Students and Courses at the University of Oregon," *School and Society*, XXVIII (September 1, 1928), 272–4.
Describes the handling of problems of personnel and vocational guidance and the reorganization of the lower division of the arts college at Oregon.

Hammond, H. P., and Stoddard, G. D. *A Study of Placement Examinations.* University of Iowa Studies, Studies in Education, Vol. IV, No. 7. Iowa City, Iowa: University of Iowa, 1928. Pp. 60.
Includes a carefully annotated bibliography of twenty references.

Hammond, H. P., and Stoddard, G. D. "A Study of Placement Examinations," *Journal of Engineering Education*, XIX (September, 1928), 25–83.

Harper, W. A. "Compulsory Chapel and an Experienced-Centered Curriculum," *School and Society*, XXVIII (November 17, 1928), 627–9.
Discusses the plan in operation at Elon College.

Hartson, L. D. "Intelligence and Scholarship of Occupational Groups," *Personnel Journal*, VII (December, 1928), 281–5.
A study of 1,135 alumni of Oberlin college.

Hatt, Elsie, and McClusky, F. D. *A Comparative Study of Two Methods of Defining Scholastic Failure in a University.* Studies in Higher Education, No. 4. Lafayette, Indiana: Purdue University, 1926. Pp. 24.

Hawkes, H. E. "Constructive Discipline," *Association of American Colleges Bulletin*, XIV (April, 1928), 180–6.
Suggests that the only real kind of discipline is self-discipline.

Hawkes, H. E. "Report of the Commission on College Personnel Technique," *Association of American Colleges Bulletin*, XV (March, 1929), 123–6.

Heilman, J. D. "Scores and Grades," *Teachers Journal and Abstract*, III (November, 1928), 576–80.
A treatment of scoring and marking student achievement based on relatively objective bases.

Helseth, Inga O. "Measuring Practice Teaching," *Journal of Educational Method*, VII (April, 1928), 298–303.
Involves a lesson plan form, daily teaching score card, office summary sheet, and questions and references.

Henmon, V. A. C. *Achievement Tests in the Modern Foreign Languages.* Publications of the American and Canadian Committees on Modern Languages, Volume Five. New York: Macmillan Co., 1929. Pp. xxvi + 364.

Hildreth, Gertrude. "Thorndike College Entrance Test Results in a Senior High School," *Teachers College Record*, XXVIII (June, 1927), 1035–44.

Hill, D. C. "Results of Intelligence Tests at the University of Illinois," *School and Society*, IX (May 3, 1919), 542–5.

Hines, H. C. "The Honor System and the Normal Curve," *School and Society*, XXVI (October 15, 1927), 481–5.
Presents evidence to the effect that the honor system does not abolish cheating.

Hodges, W. T. "The Problem of Student Accounting and Guidance in Six Virginia Colleges." Unpublished Doctor's thesis, Harvard University, 1925.

Holaday, P. W. "The Long-Time Effect of Freshman Counseling," *School and Society*, XXIX (February 16, 1929), 234–6.
Results show that with the experimental group the grade point averages were higher, fewer were dropped for poor scholarship, fewer left college because of discouragement over low standing, and students tried harder to adjust themselves to college life.

Holmes, B. E. "Study in the Comparison of the Records of Normal School Students Certified and Uncertified for Entrance," *Educational Administration and Supervision*, XI (October, 1925), 447–51.

Holy, T. C. "A Weighting Scheme for Freshmen Grades," *Educational Research Bulletin*, VIII (February 20, 1929), 77–81. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

Hopkins, L. B. *Personnel Procedure in Education.* Supplement to Educational Record, October, 1926. Pp. 96.

Hopkins, L. B. "Student Relations in a College of Five Hundred Students," *Association of American Colleges Bulletin*, XIII (May, 1927), 230–5.

Hopkins, L. T. *The Marking System of the College Entrance Examination Board.* Harvard Monographs in Education, Series 1, No. 2. Cambridge, Massachusetts: Harvard University Press, 1921. Pp. 16.

Horn, P. W. "Bad College Risk," *School Review*, XXXI (November, 1923), 670–9.

Horton, R. E. *Measurable Outcomes of Individual Laboratory Work in Chemistry.* Teachers College Contributions to Education, No. 303. New York: Teachers College, Columbia University, 1928. Pp. 104.

Howard, D. T. "Personality Development as a College Problem," *Educational Administration and Supervision,* XV (January, 1929), 11–24.

Emphasizes the personnel point of view.

Hughes, W. H. *Personnel Study of Junior College Freshmen.* Educational Research Bulletin, Vol. III, No. 5. Pasadena, California: City Schools, 1925.

Hughes, W. H. "Why Intelligence Scores Are not More Highly Predictive of School Success," *Educational Administration and Supervision,* XII (January, 1926), 44–8.

Husband, R. W. "Vocation and the College of Liberal Arts," *National Education Association Addresses and Proceedings,* 1922, pp. 696–706.

Hutchinson, M. E. "College Athletics and Scholarship," *School and Society,* XXIX (February 2, 1929), 151–2.

Includes data on forty athletes and sixty-seven non-athletes.

James, B. B. *An Experimental Inquiry into the Mental Calibre of Normal School Students.* Bulletin of the Whitewater State Normal School, Series No. 93. Wisconsin, 1922. Pp. 22.

James, H. W. "A National Survey of the Grading of College Freshman Compositions," *English Journal,* XV (October, 1926), 579–87.

Based on reports from seventy-five schools and 363 instructors.

Jette, P. L. "A Study of the Learning Curves for Two Systems of Shorthand," *Journal of Experimental Psychology,* XI (April, 1928), 145–60.

A study of the Gregg and Burnz systems of shorthand.

Johnston, J. B. "Predicting College Success for the High School Senior," *Educational Record,* IX (January, 1928), 17–25. Reports data secured at the University of Minnesota.

Johnston, J. B. "Predicting Success in College at the Time of Entrance," *School and Society,* XXIII (January 16, 1926), 82–8.

Johnston, J. B. "Predicting Success or Failure in College at the Time of Entrance," *School and Society,* XIX (June 28, 1924), 772–6; XX (July 5, 1924), 27–32.

A correlation of .63 ± .02 between high school record and freshman scholarship was found, between intelligence tests and freshman scholarship, .50 ± .02.

Johnston, J. B. "Student Orientation at Minnesota," *Problems of College Education*, chapter xxi. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Johnston, J. B. "Student Selection," *Higher Education in America*, Part II, chapter i. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Johnston, J. B. "Tests for Ability before College Entrance," *School and Society*, XV (April 1, 1922), 345–53.

Jones, A. L. "College Personnel Technique," *Association of American Colleges Bulletin*, XI (November, 1925), 313–7.

Jones, A. L. "Personnel Technique in an Effective College," *Association of American Colleges Bulletin*, XII (May, 1926), 163–75.

Jones, A. L. "Personnel Technique in the Handling of Freshmen," *Association of American Colleges Bulletin*, XIII (May, 1927), 244–57.

Jones, A. J. "Age at Graduation and Success in Life," *School Review*, XXXIII (March, 1925), 184–90.

Jones, E. S. "Predictions from High School Performances," *School and Society*, XXVII (March 17, 1928), 339–40.
Reports correlation of college marks with high-school marks and Regents' examinations.

Jones, E. S. "Prediction of Teaching Success for the College Student," *School and Society*, XVIII (December 8, 1923), 685–90.

Jones, E. S. *Testing and Training the Inferior Freshman.* University of Buffalo Studies, Vol. V, No. 3, Buffalo, New York: University of Buffalo, 1927.

Jones, H. E. "A Comparison of Objective Examination Methods," *Journal of Educational Method*, VIII (February, 1929), 273–6.
Compares the controlled completion form of the multiple-choice examination and the true-false form.

Jones, H. E. *Experimental Studies of College Teaching:* The Effect of Examination on Permanence of Learning. Archives of Psychology, No. 68. New York: Columbia University, 1923. Pp. 70.

Jones, Jane L. *A Personnel Study of Women Deans in Colleges and Universities.* Teachers College Contributions to Education, No. 326. New York: Teachers College, Columbia University, 1928. Pp. 156.

Jones, Lonzo. "A Project in Student Personnel Service at the College Level," *School and Society*, XXVIII (December 15, 1928), 765–8.
Reports results secured from the Iowa Placement Examinations.

Kelly, Amy. "Orientation Courses," *Progressive Education*, IV (October-November-December, 1927), 272–7.
Discussion and bibliography.

Kelly, R. L. "Better Adjustment between the High School and the College," *School and Society*, XXVII (April 21, 1928), 463–7.
An address delivered before the joint sessions of the National Association of Principals of Girls Schools and the National Association of Deans of Women at Boston, March 1, 1928.

Kinder, J. S. "A Rating Scale for Practice Teachers," *Education*, XLVI (October, 1925), 108–14.

Kitson, H. D. "An Interneship for Vocational Counselors," *Teachers College Record*, XXX (April, 1929), 703–8.

Knight, E. W. "Consider the Deans, How They Toil," *School and Society*, XXVII (June 2, 1928), 649–53.
A critical discussion of the red tape and clerical duties of the dean's office.

Knight, F. B. "Data on the True-False Test as a Device for College Examination," *Journal of Educational Psychology*, XIII (February, 1922), 75–80.
Covers 182 cases in college physics.

Knower, F. H. "Psychological Tests in Public Speaking," *Quarterly Journal of Speech*, XV (April, 1929), 216–22.

Koerth, Wilhelmine, and Ruch, G. M. "The Validity of Self-Estimates of College Marks," *School and Society*, XVIII (July 21, 1923), 88–90.
A study of approximately one hundred college freshmen in the University of Iowa divided into high and low groups according to their intelligence ratings.

Koos, L. V. "The Flexibility of Requirements for Admission to Colleges East and West," *School Review*, XXVIII (June, 1920), 436–50.

Kuenzel, M. W., and Toops, H. A. "Relative Stability of Intelligence Levels in Colleges," *School and Society*, XXII (August 8 1925), 176–84.

Langlie, T. A. "A Comparison of 'Aptitude' and 'Testing' Tests for Prognosis," *Journal of Educational Psychology*, XIX (December, 1928), 658–65.

Reports results secured from administering the Iowa Placement Examinations in English, mathematics, and chemistry to three hundred freshmen in the College of Engineering, University of Minnesota.

Lauterbach, C. E. "Some Factors Affecting Teachers' Marks," *Journal of Educational Psychology*, XIX (April, 1928), 266–71.
An experiment made to determine the effect of typing and longhand writing on the marking of teachers.

Leatherman, Z. E., and Doll, E. A. *A Study of the Maladjusted College Student.* Ohio State University Studies, Vol. II, No. 2. Columbus, Ohio: Ohio State University Press, 1925. Pp. 56.

Lehman, H. C. "Does It Pay to Change Initial Decisions in a True-False Test?" *School and Society*, XXVIII (October 13, 1928), 456–8.
Includes data from fifty college students; conclusion is that able students profit as a rule when initial decisions are changed, while poor students are just as likely to make a change for the worse.

Leiper, M. A. *A Diagnostic Study of the Errors Made by College Freshmen in their Written Compositions.* Peabody Contributions to Education, No. 22. Nashville, Tennessee: George Peabody College for Teachers, 1926.

Leker, C. A. "Guessing in True-False Tests," *School Review*, XXXVI (December, 1928), 768–70.
Includes data from forty juniors and seniors in the Polytechnic Institute of Porto Rico.

Lemon, A. C. *An Experimental Study of Guidance and Placement of Freshmen in the Lowest Decile of the Iowa Qualifying Examination*, 1925. University of Iowa Studies in Education, Vol. III, No. 8. Iowa City, Iowa: University of Iowa, 1927. Pp. 136.
Describes an experimental study with control and experimental groups; experimental group was given definite guidance in adjusting itself to university life.

Lemon, H. B. "Forecasting Failures in College Classes," *School Review*, XXX (May, 1922), 382–7.

Linton, Clarence. "The Administration of Credits Allowed in Advanced Standing in Schools of Education," *Teachers College Record*, XXX (November, 1928), 126–33.
A list of rules of procedure in the administration of credit.

Little, C. C. "Disappearing Personal Touch in Colleges," *Scribner's Magazine*, LXXX (November, 1926), 465–71.

Lohr, V. C. "Some Factors of Success in Physics," *School Science and Mathematics*, XXVIII (April, 1928), 389–98.
Includes a study of high-school pupils in beginning physics and junior-college students in a first course in physics.

Longstaff, H. P., and Porter, J. P. "Objective Measures of Ability and Achievement in General Psychology," *Journal of Applied Psychology*, XIII (April, 1929), 173–87.

Longstaff, H. P., and Porter, J. P. "Speed and Accuracy as Factors in Objective Tests in General Psychology," *Journal of Applied Psychology*, XII (December, 1928), 636–42.
Includes data from fourteen tests of the multiple-choice type administered to 186 students.

Ludeman, W. W. "Selection and Elimination of Teacher-Training Material," *Educational Administration and Supervision*, XIII (February, 1927), 120–4.
A questionnaire study of the practices in fifty-eight institutions.

McKee, J. H., and Conklin, R. J. "College Spelling—Can It Be Improved?" *English Journal*, XVII (January, 1928), 43–9.

MacPhail, A. H. "Freshman Academic Achievement in Colleges of Students Presenting Four Years of Latin and Those Presenting No Latin," *School and Society*, XIX (March 1, 1924), 261–2.

MacPhail, A. H. *The Intelligence of College Students*. Baltimore: Warwick and York, 1924. Pp. 176.

MacPhail, A. H. "The Selection, Retention and Guidance of College Students—with Special Reference to the Use of Intelligence Tests." Unpublished Doctor's thesis, Brown University, 1923.

McVey, F. L. "Who Should Go to College?" *School and Society*, XXVI (October 1, 1927), 410–4.

Madsen, I. N. "Prediction of Teaching Success," *Educational Administration and Supervision*, XIII (January, 1927), 39–47.

Mann, C. V. "An Evaluation of Placement Examinations," *Journal of Engineering Education*, XIX (November, 1928), 288–300.

Marshall, H. W. "Causes of Elimination of Students from Indiana University." Unpublished Doctor's thesis, Indiana University, 1927.

Martens, Elsie H. "Student Teachers and the Thurstone Psychological Examination," *School and Society*, XXVII (May 26, 1928), 638–40.
Presents data secured from 296 student teachers at the University of California.

Mathews, C. O. "Erroneous First Impressions on Objective Tests," *Journal of Educational Psychology*, XX (April, 1929), 280–6.

Mathiasen, O. F. "Guidance and Placement in University Graduate Schools of Education." Unpublished Doctor's thesis, Harvard University, 1927.

Maverick, L. A. "Major Subject in the University," *California Quarterly of Secondary Education*, III (June, 1928), 318–26. An analysis of the student body of the University of California at Los Angeles.

Maverick, L. A. *The Vocational Guidance of College Students.* Harvard Studies in Education, No. 8. Cambridge, Massachusetts: Harvard University Press, 1926. Pp. 252.

May, M. A. "Predicting Academic Success," *Journal of Educational Psychology*, XIV (October, 1923), 429–40.

Mead, A. R. "Methods of Selection and Supervision of Practice Teachers," *Eighteenth Yearbook of the National Society for the Study of Education;* Part I, pp. 292–344. Bloomington, Illinois: Public School Publishing Co., 1919.

Mead, A. R. "Suggestions for the Training of Teachers in the Use of Educational Measurements," *Educational Administration and Supervision*, XII (January, 1926), 23–43. Includes numerous concrete suggestions and reproductions of materials and examinations in educational measurement.

Mersereau, E. B. "A Study of the Relationship of Scholastic Maturity and Scholarship as Shown by College Marks," *Peabody Journal of Education*, V (March, 1928), 291–300. An analysis of 4,182 marks received by 1,449 students.

Mersereau, E. B. "A Study of the Significance of College Marks Considered as Ranks," *Educational Administration and Supervision*, XIII (February, 1927), 103–8. An attempt to solve statistically the question, "What are the differences in the values of the different marks?"

Mersereau, E. B. "Index of Consistency for College Students," *School and Society*, XXV (March 19, 1927), 352–3.

Metcalf, M. M. "Discipline in College," *School and Society*, XXVII (February 4, 1928), 121–4. Suggests way of removing friction in the regulation of conduct in college life.

Michael, Wm., and Crawford, C. C. "An Experiment in Judging Intelligence by the Voice," *Journal of Educational Psychology*, XVII (February, 1927), 107–14.

Nine "qualities" of speech were rated by a single judge, on a five-point scale; the ratings of fifty-six students were correlated with their intelligence and scholarship scores.

Miller, E. L. "The Success of Freshmen in College," *North Central Association Quarterly*, II (September, 1927), 140–5.

Miner, J. B. "An Analysis of Vocational Interests," *School Review*, XXXIII (December, 1925), 744–54.

Moon, G. R. "The Reliability of Rating Schemes," *School and Society*, XXIX (March 16, 1929), 366–8.
Compares high-school ratings with scholastic records at the University of Chicago.

Moss, F. A., Loman, Wm., and Hunt, Thelma. "Impersonal Measurement of Teaching," *Educational Record*, X (January, 1929), 40–50.
Presents data secured from administering a general chemistry test to 6,667 students in twenty-eight institutions at the end of the first year of college chemistry.

Murray, E. "Some Uses of the Freshman Test in the Smaller College," *School and Society*, XVII (April 14, 1923), 416–7.

Nulton, Lucy. "Analyzing and Critizing Student Teaching in the Early Elementary Grades," *Peabody Journal of Education*, VI (July, 1928), 15–23.
Includes lists of statements concerning desirable procedures.

Odell, C. W. *A Critical Study of Measures of Achievement Relative to Capacity.* University of Illinois Bulletin, Vol. XXVI, No. 29. Urbana, Illinois: University of Illinois, 1929. Pp. 58.

Odell, C. W. *The Use of Scales for Rating Pupils' Answers to Thought Questions.* University of Illinois Bulletin, Vol. XXVI, No. 36. Urbana, Illinois: University of Illinois, 1929. Pp. 34.
Discusses the reliability of marking traditional-examination papers and reports results of an investigation in which scales for rating answers to thought questions were developed.

Ogan, R. W., and Ewing, D. H. "Reducing Variability in Teachers' Scoring," *Educational Research Bulletin*, VII (May 16, 1928), 214–6. Columbus, Ohio: Bureau of Educational Research, Ohio State University.
Reports an attempt made in a class in educational measurements to show each student his tendency to constant and variable error in scoring and to demonstrate the possibility of reducing this error.

O'Shea, M. V. *A State Educational System at Work.* Jackson, Mississippi: Bernard B. Jones Fund, 1927. Pp. xvi + 368. Includes a study of the intellectual status and educational progress of freshmen in college.

Palmer, Irene. "New Type Examinations in Physical Education," *American Physical Education Review*, XXXIV (March, 1929), 151–6.

Paterson, D. G. "Evaluation of Orientation Course at Minnesota," *Educational Record*, VIII (April, 1927), 99–106.
Discusses the problems involved: prediction, examinations, marking, measurement of progress, elimination, motivation, ability grouping, size of sections, student opinions, and aptitudes.

Paterson, D. G. "Use of New-Type Examination Questions in Psychology at the University of Minnesota," *School and Society*, XXVIII (September 22, 1928), 369–70.
Includes a tabulation of the topics covered by objective tests and the number of questions used for each topic.

Paterson, D. G., and Others. "The Minnesota Student Personnel Program," *Educational Record Supplement*, No. 7, April, 1928, 3–40.
Discusses educational and vocational guidance in high school, securing personnel information, measuring aptitude, curriculum provisions for individual differences, educational and vocational guidance of undergraduates, improvement of examinations and marking systems, extra-curriculum activities, financial aid and employment, students' health and mental hygiene, and coordination of personnel activities.

Patterson, Herbert. "An Experiment in Supervising College Teaching," *School and Society*, XXI (January 31, 1925), 146–7.
Reports an experiment in which student ratings of instructors were turned over to instructors at the end of the year.

Patterson, Herbert. "How Can the Ability of Student-Teachers Be Measured?" *Educational Administration and Supervision*, VI (March, 1920), 215–9.

Perry, Winona M. "Measurement and Analyses of Student Achievement in a Beginning Course in Educational Psychology," *Education*, XLVIII (September, 1927), 12–22.
Describes a series of ten tests constructed as a teaching device and as a means of measuring student achievement, with a statement of the results secured.

Persinger, C. E. "An Experiment in Quantity-Quality Assignment in College Classes," *Historical Outlook*, XVII (October, 1926), 293–5.
An experiment involving marks awarded in social science on the basis of quantity of work done, as well as quality of work.

Peters, C. C. "A Method for Computing Accomplishment Quotients on the High-School and College Levels," *Journal of Educational Research*, XIV (September, 1926), 99–111.
A statistical study of about 1,300 students at Ohio Wesleyan University.

Phelps, S. "Committee Report, College Marking Systems," *High School Quarterly*, XV (January, 1927), 80–5.

Pierce, Anna E. *Catalog of Literature for Advisers of Young Women and Girls* [revised and enlarged]. New York: H. W. Wilson Co., 1923. Pp. 86.

Pierce, Anna E. *Deans and Advisers of Women and Girls.* New York: Professional and Technical Press, 1928. Pp. xvi + 636.
Discusses the duties, qualifications, and status of the dean and her relations with the various groups with which she comes in contact.

Pierson, Celia D., and Nettels, C. H. "A Study of High-School Seniors to Determine Who Shall Be Recommended to College," *School and Society*, XXVIII (August 18, 1928), 215–6.
Reports correlations between college scholarship, high-school scholarship, intelligence rating, and character rating.

Pintner, R., and Upshall, C. C. "Some Results of Social Intelligence Tests," *School and Society*, XXVII (March 24, 1928), 369–70.
Reports that the Moss Social Intelligence Test correlates fairly well with a reliable intelligence test of the usual abstract verbal type.

Potter, H. E. *Abilities and Disabilities in the Use of English Found in the Written Compositions of Entering Freshmen at the University of California.* Bureau of Research Studies, No. 12. Berkeley, California: University of California, 1922. Pp. 52.

Pratt, G. K. "Personality and Social Adjustments of College Students," *Quarterly Journal of Speech Education*, X (November, 1924), 364–8.

Pressey, S. L. "Background Educational Factors Conditioning College Success," *Yearbook Number XVI of the National Society of College Teachers of Education*, pp. 24–9. Chicago: University of Chicago Press, 1928.

Probst, C. M. "The Consideration Given to School Recommendations for Admission to Goucher College," *National Education Association Addresses and Proceedings*, 1926, pp. 431–8.

Pruette, L. "Vocational Orientation for the College Student," *Educational Review*, LXIX (February, 1925), 83–5.
A skeleton outline for a course in vocational orientation.

Purin, C. M. "The Training of Modern Foreign Language Teachers in the Light of Investigations Conducted by the Modern Foreign Language Study," *Modern Language Journal*, XIII (October, 1928), 15–20.

Pyle, W. H. "The Relation Between Intelligence and Teaching Success: A Supplementary Study," *Educational Administration and Supervision*, XIV (April, 1928), 257–67.
Covers two years of teaching done by a graduating class from the Detroit Teachers College; includes extensive bibliography.

Rae, Florence J., and Pressey, S. L. "A Comparison of 'Honor' and 'Zero' Sections in English Composition," *Educational Research Bulletin*, VI (April 27, 1927), 183–5, 198. Columbus, Ohio: Bureau of Educational Research, Ohio State University.
Analyzes the compositions of good and poor students with reference to types of sentences used and errors made.

Raines, Lester. "What a Freshman Wants to Know," *School and Society*, XXIX (May 4, 1929), 577–8.
Lists items about which freshmen are perplexed.

Randall, O. E. "Some Essentials in the Process of Preparation for College," *School and Society*, XXII (September 5, 1925), 281–7.

Rathbun, J. C. "Ranking Students from Their Literal Grades," *School and Society*, XVI (September 16, 1922), 326–35.
Statistical and mathematical discussion of the marking system at the University of Washington.

Reed, J. R., and Others. *Freshman Psychological Examination in the College of Arts and Sciences at the University of Texas.* University of Texas Bulletin, No. 2445. Austin, Texas: University of Texas, 1924.

Reeve, W. D. "New-Type Tests in Teaching Mathematics," *Teachers College Record*, XXIX (May, 1928), 693–703.
Discusses general types of tests, achievement tests, criteria for construction of tests, and illustrations of new-type tests in mathematics.

Reeves, F. W. "College Teaching—Uses and Abuses of Standardization," *Association of American Colleges Bulletin*, XV (May, 1929), 230–41.

Reeves, F. W., and Russell, J. D. *College Organization and Administration*, chapters vi, vii. Indianapolis, Indiana: Board of Education Disciples of Christ, 1929.
Treats distribution of marks, scholarship, psychological examinations, student load, and cause of student withdrawals.

Remmers, H. H. *A Diagnostic and Remedial Study of Potentially and Actually Failing Students at Purdue University.* Lafayette, Indiana: Purdue University, 1928. Pp. 164.

Remmers, H. H., and Brandenburg, G. C. "Experimental Data on the Purdue Rating Scale for Instructors," *Educational Administration and Supervision*, XIII (November, 1927), 519–27.

Remmers, H. H., and Stalnaker, J. M. "An Experiment in Remedial Reading Exercises at the College Level," *School and Society*, XXVIII (December 22, 1928), 797–800.
Summarizes related experiments and reports secured from seven students at Purdue.

Remp, M. "Comparison of the Scholastic Records of Athletes and Non-Athletes," *American Physical Education Review*, XXX (April, 1925), 187–92.

Rivett, B. J. "Marks of Students in High School and Higher Institutions," *School Review*, XXXII (December, 1924), 752–6.

Robertson, D. A. "Personnel Methods in College," *Educational Record*, VIII (October, 1927), 310–21.
Presents data secured from fourteen institutions.

Robinson, J. R. "Instructional Records in Teachers Colleges." Unpublished Doctor's thesis, George Peabody College for Teachers, 1927.

Robinson, M. R. "Reducing Freshman Eliminations," *Journal of Engineering Education*, XVIII (May, 1928), 880–90.

Rogers, A. L. "Intelligence Level and Academic Attainment of Conditioned Students," *Educational Administration and Supervision*, X (September, 1924), 395–8.

Rogers, A. L. "Intelligence of Women Graduates of Colleges of Liberal Arts Entering the Teaching Profession," *School and Society*, XIX (February 16, 1924), 201–2.

Rogers, A. L. "The Use of Psychological Tests in the Administration of Colleges of Liberal Arts for Women," *Twenty-First Yearbook of the National Society for the Study of Education.*

pp. 245–52. Bloomington, Illinois: Public School Publishing Co., 1922.

Rogers, F. R. *Physical Capacity Tests in the Administration of Physical Education.* Teachers College Contributions to Education, No. 173. New York: Teachers College, Columbia University, 1925. Pp. 94.

Rogers, F. R. *Tests and Measurement Programs in the Redirection of Physical Education.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. 166.

Rose, Anna L. "After College What?" *School and Society,* XXVII (June 30, 1928), 785–7.
Reports the vocational choices or preferences of 115 freshmen girls at George Washington University.

Ruch, G. M., and Charles, J. W. "A Comparison of Five Types of Objective Tests in Elementary Psychology," *Journal of Applied Psychology,* XII (August, 1928), 398–403.
Presents data concerning the reliability of recall, five-response, three-response, two-response, and true-false tests.

Ruch, G. M., and Degraff, M. H. "Corrections for Chance and Guess vs. Do Not Guess Instructions in Multiple-Response Tests," *Journal of Educational Psychology,* XVII (September, 1926), 368–75.

Sandison, H. "What Should Be Determining Factors in Requirements for Admission to College Examinations," *National Education Association Addresses and Proceedings,* 1926, pp. 427–30.

Savage, H. J. "College Athletics and Scholarship," *Twenty-Second Annual Report,* pp. 49–65. New York: Carnegie Foundation for the Advancement of Teaching, 1927.

Scates, D. E. "A Study of High-School and First-Year University Grades," *School Review,* XXXII (March, 1924), 182–92.

Scates, D. E. "Selective Admission and Selective Retention of College Students at the University of Chicago." Unpublished Doctor's thesis, University of Chicago, 1926.

Schoonmaker, Hazel E. "The Value of the Hotz Algebra Scales in Sectioning College Classes in Freshmen Mathematics," *School Science and Mathematics,* XXVIII (November, 1928), 880–4.
Reports the results of an investigation.

Schultz, I. T. *A Descriptive and Predictive Study of Class in a School of Education.* Philadelphia: University of Pennsylvania, 1928. Pp. 132.

Schutte, T. H. "Is There Value in the Final Examination?" *Journal of Educational Research*, XII (October, 1925), 204–13.
Describes an experiment in which the parallel-group procedure was used to compare the performance of a group expecting an examination with a group not expecting an examination.

Scott, W. D. "Intelligence Tests for Prospective Freshmen," *School and Society*, XV (April 8, 1922), 384–8.

Scott, W. D. "Letter to the Freshmen of Northwestern University," *School and Society*, XXVIII (September 22, 1928), 366–9.
A president's advice to beginning students.

Sears, J. B. "The Measurement of Teaching Efficiency," *Journal of Educational Research*, IV (September, 1921), 81–94.
Discusses teacher-rating and includes a bibliography of fifty-five references.

Seashore, C. E. *Learning and Living in College.* University of Iowa Studies, Volume II, Number 1. Iowa City, Iowa: University of Iowa, 1927. Pp. 124.

Seashore, C. E. "Progressive Adjustment versus Entrance Elimination in a State University," *School and Society*, XVII (January 13, 1923), 29–35.
Outlines a plan for adjusting the student to the work he is best fitted to do.

Senska, N. M. "Making a Detailed Score Card for Grading Student-Teachers," *Educational Administration and Supervision*, XI (March, 1925), 199–201.

Sharp, L. A. "A Study of School Marks," *Peabody Journal of Education*, I (January, 1924), 207–14.
Discusses by teachers, subjects, and years the distribution and meaning of school marks.

Shepherd, J. W. "College Freshman Placement Tests," *Phi Delta Kappan*, XI (February, 1929), 131–3.
Covers English and reading in Oklahoma institutions.

Sherman, J. H. "Is the Examination Worth Retaining?" *School and Society*, XXVII (June 9, 1928), 694–6.
A discussion.

Smith, C. A. "Why Students Leave College," *Educational Administration and Supervision*, IX (September, 1923), 339–44.
A statistical study of withdrawals from college.

Smith, H. A. "College Records and Success in Life," *Education*, XLVII (May, 1927), 513–29.

Snedden, D. S. *A Study in Disguised Intelligence Tests: Interview Form.* Teachers College Contributions to Education, No. 291. New York: Teachers College, Columbia University, 1928. Pp. 48.

This study attempts to determine to what extent intelligence can be measured during an interview, while the interviewed is not aware that he is being tested. While it remains to be discovered whether the method can be adapted to non-experimental situations, this work should be of interest to psychologists and those in personnel work who use interviewing.

Snyder, Morton. "Selecting College Freshmen—A Cooperative Enterprise," *Progressive Education*, IV (October-November-December, 1927), 253–9.

Discussion and references.

Somers, G. T. *Pedagogical Prognosis: Predicting the Success of Prospective Teachers.* Teachers College Contributions to Education, No. 140. New York: Teachers College, Columbia University, 1923. Pp. 138.

Somers, G. T. "A Proposed Marking System for Colleges and Universities," *Bulletin of the School of Education*, Vol. III, No. 6, pp. 3–22. Bloomington, Indiana: Indiana University, 1927.

Somers, G. T. *Student's Attitude toward Examinations.* Bulletin of the School of Education, Vol. III, No. 1. Bloomington, Indiana: Indiana University, 1926. Pp. 48.

Sorenson, Herbert. "High-School Subjects as Conditioners of College Success: Implications and Theories Concerning Mental Factors and Faculties," *Journal of Educational Research*, XIX (April, 1929), 237–54.

Spence, R. B. "Factors Related to College Achievement," *Teachers College Record*, XXIX (March, 1928), 504–14.

Reports an experiment in educational psychology.

Stalnaker, E. M. *A Comparison of Certain Mental and Physical Measurements of School Children and College Students.* Baltimore: Williams and Wilkins, 1924. Pp. 98.

Stanton, Hazel M. "Measuring Musical Talent," *Personnel Journal*, VII (December, 1928), 286–92.

Describes use and results of the Seashore Musical Aptitude Tests at the University of Rochester.

Stevens, J. S. "General Information Test," *School and Society*, XVII (April 14, 1923), 417–8.

Stewart, J. S., and Others. *Record of Students Entering Georgia Colleges and Normal Schools*, 1926–1927. Bulletin of the University of Georgia, Vol. XXVII, No. 9. Athens, Georgia: University of Georgia, 1927. Pp. 64.

Stoddard, G. D. "A Mental-Educational Survey of Iowa Junior Colleges," *School Review*, XXXVI (May, 1928), 346–9.
Compares the mental and educational ability of beginning students in junior colleges with similar measures of freshmen at the University of Iowa.

Stone, C. L. "The Significance of Alpha in Colleges," *Journal of Educational Psychology*, XIII (May, 1922), 298–302.

Stone, H. E. "The University Dean of Men," *School and Society*, XXVIII (September 22, 1928), 347–50.
Includes a list of the institutions which have a dean of men and a statement of the activities of a dean as gleaned from bulletins and the author's experience.

Stone, W. H. "Vocational Guidance in Colleges and Universities," *Twenty-Third Yearbook of the National Society for the Study of Education*, Part II, pp. 139–45. Bloomington, Illinois: Public School Publishing Co., 1924.

Storey, T. A. "Health Examination, a Prerequisite to Matriculation in College," *American Physical Education Review*, XXXI (May, 1926), 812–4.

Strong, E. K. "A Vocational Interest Test," *Educational Record*, VIII (April, 1927), 107–21.

Strong, E. K. "Diagnostic Value of the Vocational Interest Test," *Educational Record*, X (January, 1929), 59–68.
Compares vocational-interest blanks filled in by 156 Stanford University seniors with their later occupational choices.

Sturtevant, Sarah M. "What Is a Professional Course for Deans of Women?" *School and Society*, XXVIII (September 1, 1928), 259–62.
Defines a professional course, states the duties of the dean, and suggests the type of courses desirable for deans of women.

Sturtevant, Sarah M., and Hayes, Harriet. "A Partial Bibliography for Deans of Women and Girls," *Teachers College Record*, XXIX (April, 1928), 628–47; XXIX (May, 1928), 739–52.
Includes references applicable at the college and normal-school level.

Sturtevant, Sarah M., and Strang, Ruth. *A Personnel Study of the Work of Deans of Women in Teachers Colleges and Normal*

Schools. Teachers College Contributions to Education, No. 319. New York: Teachers College, Columbia University, 1928. Pp. 96.

Symonds, P. M. "Equating College Marks," *Educational Administration and Supervision*, XI (February, 1925), 118–24. Suggests the utilization of the results of an intelligence examination in equating marks.

Symonds, P. M. "The Significance of Intelligence Tests in the University of Hawaii," *School and Society*, XX (November 8, 1924), 601–6.

Tallman, R. W. *A Critical Analysis of Student Persistence at the State University of Iowa.* University of Iowa Studies, Volume IV, Number 1. Iowa City, Iowa: State University of Iowa, 1927. Pp. 64.
Analysis of an entering class and a group that had been graduated in an effort to determine an adequate basis for prediction.

Taylor, C. K. "College Entrance Problem, and a Solution," *Outlook*, CXLV (April 27, 1927), 523–4.

Taylor, J. B. "Need of Preview for College," *Educational Review*, LXXIII (April, 1927), 209–12.

Thompson, C. O., and Russell, Dale. *Some Factors Affecting the Scholastic Success of Teachers College Freshmen.* Bulletin Indiana State Normal School, Eastern Division, Vol. II, No. 4. Muncie, Indiana: Ball Teachers College, 1927.

Thompson, T. M. "Intelligence Test Scores and Students' Marks," *School and Society*, XVIII (November 3, 1923), 531. A comparison of the correlation between intelligence test scores and students' marks for the first and second semesters of the year 1922–23 of the freshmen of Colgate University.

Thornhill, R. E., and Landis, Carney. "Extra-Curricular Activity and Success," *School and Society*, XXVIII (July 28, 1928), 117–20.
Compares extra-curricular activity in college with later success as determined by mention in *Who's Who.*

Thurstone, L. L. "Psychological Examinations for College Freshmen," *Educational Record*, VIII (April, 1927), 156–82.

Thurstone, L. L., and Thurstone, Thelma G. "Psychological Examination for 1928," *Educational Record*, X (April, 1929), 105–15.
Discusses the 1928 edition of the American Council on Education Psychological Examination.

Toll, C. H. "Scholastic Aptitude Tests in Amherst College," *School and Society*, XXVIII (October 27, 1928), 524–8.
Reports the results of a series of tests including Alpha, Otis, American Council on Education, Smith Information, and Amherst.

Toops, H. A. "An Individual Educational Guidance Card for College Students," *School and Society*, XX (July 26, 1924), 125–8.

Trow, C. W., and McLouth, Florence. "An Improvement Card for Student-Teachers," *Educational Administration and Supervision*, XV (January, 1929), 1–10; XV (February, 1929), 127–33.
Reviews the literature under these headings: questionnaires to superintendents, score cards, statistical studies, causes of failures, questionnaires to pupils, estimating teacher success by measuring the advancement of pupils, and the extent of the use of rating schemes; includes a bibliography and discusses the card as a training device.

Van Wagenen, M. J. "Achievement of College Students in Freshman Rhetoric," *Educational Administration and Supervision*, XII (December, 1926), 603–17.
Reports data secured from approximately one thousand students at the beginning and end of the course.

Van Wagenen, M. J. "The College Freshman's Range of Information in the Social Sciences," *School Review*, XXXV (January, 1927), 32–44.
Presents results secured from administering American history and geography scales to approximately eight hundred freshmen at the University of Minnesota.

Von Klein Smid, R. B., and Touton, F. C. *Some Modern Procedures in Junior College and Lower Division Education.* Los Angeles, California: University of Southern California, 1929. Pp. 22.
Treats freshman orientation, educational objectives as guiding principles, standardizing grading practice, use of intelligence tests in instruction, and habits of work and study of individual students.

Waddell, C. W. "A New Rating Scale for Practice Teaching," *Journal of Educational Method*, VIII (January, 1929), 214–9.
Includes a reproduction of the scale.

Waller, O. L. "How Shall We Measure Scholastic Attainment," *School and Society*, XXII (December 26, 1925), 818–20.
Discusses quality, quantity, time, honors, and load.

Walters, J. E. "Description of Procedures of the Personnel System for the Schools of Engineering, Purdue University, Lafayette, Indiana," *Journal of Engineering Education*, XVIII (January, 1928), 455–97.

Walters, R. "The Personal Interview as One Basis for Admission to College," *National Education Association Addresses and Proceedings*, 1926, pp. 439–43.

Walters, R. "Personal Relations in the Small College," *Educational Review*, LXXIV (June, 1927), 40–2.

Walters, R. "The Small College and Personnel Procedure," *Association of American Colleges Bulletin*, XIII (May, 1927), 236–43.

Walters, R. "The Spring Meeting of the College Entrance Examination Board," *School and Society*, XXIX (April 27, 1929), 551–3.

Warner, F. H. "Are Our Colleges Playing Fair with Their Freshmen?" *Educational Review*, LXV (April, 1923), 217–8.

Watson, G. B. *Experimentation and Measurement in Religious Education.* New York: Association Press, 1927. Pp. xii + 296.

Includes a list of 140 pertinent problems for experimentation in the field of religious education.

Webb, L. W. "Ability of Men and Women to Judge Intelligence," *School and Society*, XX (August 23, 1924), 251–4.

Weber, C. O. "Methods and Rewards of the Correct Selection of College Freshmen," *School and Society*, XXVIII (October 27, 1928), 516–9.

Describes the plan at Wells College.

Webster, W. F. "Who Should Go to College?" *Journal of Education*, CVIII (September 24, 1928), 235–6.

A discussion of the vocational preferences of high-school graduates based on investigations from year to year in the Minneapolis system.

Weidemann, C. C., and Wood, B. D. *Survey of College Examinations.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. 30.

Wendt, Gerald. "The Cost of Retaining Inferior Students in College," *Journal of Chemical Education*, V (May, 1928), 556–60.

Weymann, M. F. "Analysis of Student Grades at Washington University School of Medicine," *Science*, LV (June 30, 1922), 690–3.

Whinery, S. M. "Psychological Test Ratings and College Entrance Age," *School and Society*, XXIV (September 18, 1926), 370–2.

Whipple, G. M. "Intelligence Tests in Colleges and Universities," *Twenty-First Yearbook of the National Society for the Study of Education*, pp. 253–70. Bloomington, Illinois: Public School Publishing Co., 1922.

Whitchurch, A. K. "Psychological Norms among University Freshmen," *Journal of Applied Psychology*, V (December, 1921), 318–39.

White, C. L. "The Freshman," *Educational Administration and Supervision*, XII (February, 1926), 95–104.

Whitman, A. D. *Value of the Examinations of the College Entrance Examination Board as Predictions of Success in College.* New York: Bureau of Publications, Teachers College, Columbia University, 1926. Pp. 78.

Whitney, F. L. "Intelligence Levels among State Normal School Graduates," *Journal of Educational Research*, VII (March, 1923), 229–35.

Wilkins, E. H. "Initiatory Courses for College Freshmen: Report by Committee G," *Bulletin of the American Association of University Professors*, VIII (October, 1922), 350–80.

Wilkins, E. H. "The Orientation of the College Student," *Problems of College Education*, chapter xx. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Williston, A. L. "Selection of College Graduates for Government Service," *Educational Record*, X (April, 1929), 116–25.

Wilson, M. O. "Intelligence and Educational Achievement of 250 Freshman Women of University of Oklahoma," *School and Society*, XXI (June 6, 1925), 693–4.
Purpose was to secure certain data which would be helpful in the proper supervision of the women who were entering the university for their first year of college work.

Wilson, W. R. "Mental Tests and College Teaching," *School and Society*, XV (June 10, 1922), 629–35.
Collected data in forty classes in an effort to determine correlation between intelligence and achievement, and concludes that the individual instructor must solve the problem of making the student work up to his ability.

Witty, P. A., and Lehman, H. C. "Some Suggestive Results Regarding Sex Differences in Attitude toward School Work," *Education*, XLIX (April, 1929), 449–58.

Wood, B. D. *New York Experiments with New-Type Modern Language Tests.* New York: Macmillan Co., 1927. Pp. xxii + 340.

Wood, B. D. "One Reason for College Failures," *Educational Measurement Review*, I (May, 1925), 13.

Wood, B. D. "The Measurement of College Work," *Educational Administration and Supervision*, VII (September, 1921), 301–34.

The report of an experiment conducted by a group of instructors in Columbia College with the assistance of Professor E. L. Thorndike of Teachers College in an effort to measure college instruction objectivity.

Wood, E. P. "Improving the Validity of Collegiate Achievement Tests," *Journal of Educational Psychology*, XVIII (January, 1927), 18–25.

Young, H. H. *High School Graduates and Their College Success in Relation to Intelligence Tests.* Bulletin of the School of Education. Bloomington, Indiana: Indiana University, 1927.

Zant, J. H. "Predicting Success in Practice-Teaching," *Educational Administration and Supervision*, XIV (December, 1928), 664–70.

Reports correlations between marks in psychology, practice-teaching, and methods for two hundred cases.

Zeigel, W. H. "Achievement of High-School Honor Students in the University of Missouri," *School and Society*, XXV (January 15, 1927), 82–4.

Zeigel, W. H. *The Relation of Extra-Mural Study to Residence Enrollment and Scholastic Standing.* Peabody Contributions to Education, No. 12. Nashville, Tennessee: George Peabody College for Teachers, 1924.

"Adjusting Students to their Environment," *School Review*, XXXIV (September, 1926), 482–4.

A Study of Engineering Students at the Time of Entrance to College. Bulletin of the Investigation of Engineering Education, No. 1, 1926. Pp. 32.

"College Courses and University Examinations," *Nature*, CXVI (July 4, 1925), 3–4.

"College Entrance Requirements," *Reorganization of Mathematics in Secondary Education*, pp. 43–54. Mathematical Association of America, 1923.

"College Entrance Requirements," *Sixteenth Annual Report*, pp. 73–85. New York: Carnegie Foundation for the Advancement of Teaching, 1921.

"Initiatory Courses for College Freshmen," *School Review*, XXX (December, 1922), 721–2.

"Intelligence Scores and Progress through College," *School Review*, XXXV (March, 1927), 167–8.

"Intelligence Tests and College Admissions: Decision of the College Entrance Examination Board," *School Review*, XXXIV (January, 1926), 2–3.
Records the decision of the College Entrance Examination Board (consisting of forty colleges as members) to use psychological tests for the admission of students.

"Measuring Achievement by Ability," *Scientific Monthly*, XX (June, 1925), 661–3.

"Mental Characteristics of Various Groups of College Students," *School Review*, XXXII (June, 1924), 406–7.

"Orientation Courses," *School and Society*, XXV (February 12, 1927), 204–5.
Brief report of the work in orientation courses in colleges.

"Recent Changes in College Entrance Requirements in Fifteen Eastern Colleges," *North Central Association Quarterly*, I (December, 1926), 280–2.

Report on the Use of Intelligence Examinations in Columbia College, 1922. New York: Columbia University, 1922. Pp. 28.

"Retention and Dismissal of Undergraduates within the College," *School and Society*, XXIV (October 23, 1926), 510.

"Selecting College Candidates," *School and Society*, XVII (February 17, 1923), 188.

"Selection of College Students," *School and Society*, XXV (February 26, 1927), 263–4.

"Special Courses for Freshmen," *School and Society*, XVI (December 2, 1922), 633–4.

"Specifications for College Personnel Work," *Educational Record*, VIII (October, 1927), 322–37.
Discusses the work from several angles: statistical, the individual and the curriculum, vocational advice and placement, self-support, loans and scholarships, and selection of freshmen.

"Students' Records," *Peabody Journal of Education*, IV (November, 1926), pp. 177–9.

The University Intelligence Tests, 1919–1922. Contributions in Psychology, No. 1. Columbus, Ohio: Ohio State University, 1922. Pp. 36.

The Work of the College Entrance Examination Board, 1901–1925. Boston: Ginn and Co., 1926. Pp. 300.

Training for the Professions and Allied Occupations: Facilities Available to Women in the United States. New York: Bureau of Vocational Information, 1924. Pp. 742

Chapter VIII

REORGANIZATION AND ADJUSTMENT IN HIGHER EDUCATION, IMPROVEMENT OF COLLEGE TEACHING, AND RESEARCH

Introductory Statement.—It remains to summarize significant forms of reorganization and adjustment in colleges and universities and to point out major attempts and procedures in the improvement of instruction in higher education. Particular emphasis is placed on changes of the past decade in American education, and trends in foreign education are outlined briefly. These reorganizations and adjustments are grouped roughly under the headings of the junior college, liberal-arts college, teacher-training institutions, professional schools, and graduate schools. In considering the improvement of college teachers and teaching consideration is given to the knotty problem of whether the college teacher should attempt to do research, progress in research in higher education, bibliographies and major studies in the field, problems for investigation, and specific suggestions and plans for the improvement of college teaching.

As in the preceding chapter, references which are not cited in footnotes are listed in full in the chapter bibliography. This procedure seems desirable in view of the large number of investigations and discussions to which the reader's attention should be directed in discussing the problems treated in the present chapter. Therefore, without subsequent specific comment on the part of the writer, the reader interested in a given reference, the

author of which is mentioned in the text, may turn to the chapter bibliography for more complete information.

Significant Trends in American Higher Education During the Past Decade.—The forms of reorganization and adjustment and the types of investigation and experimentation current in colleges and universities are indicated by the content of the preceding chapters. It seems superfluous to recapitulate the topics treated in these discussions. However, the following apt summary statement which enumerates significant trends in higher education may be quoted:[1]

> The establishment of new administrative units as illustrated by junior colleges; the redefinition of the purposes of instruction at the Junior, Senior, and graduate levels; the development of new curricula and courses to meet the broad social, cultural, and vocational needs of students; the adoption of new teaching procedures to increase student interest, initiative, and responsibility, and to provide for individual differences; the intensive study of the interests, capacities, ambitions, and needs of students both at the time of admission and at subsequent periods throughout their college careers; the development of elaborate personnel agencies for giving students adequate educational guidance and specific help when difficulties are encountered; more active participation of administrative officers in improving instruction; higher standards required among the teaching staff; and the development of agencies for the scientific study of instructional problems. These and other significant tendencies are resulting in vital changes in the purpose, content, and organization of instruction in both academic and professional institutions.
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> . . . The problems which have received most consideration, as judged by the number of studies reported, relate to the discrimination of student characteristics and the prediction of scholastic success; the present status of the curriculum and desirable changes in the content of specific courses; the use of tests and

[1] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, pp. 148–9. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

measurements as an aid in determining student achievement and difficulties; the validity of the so-called "new-type" tests; the advantages of ability grouping; the merits of different teaching procedures; admission and graduation requirements; the overlapping of courses in high school and college; and the methods used in increasing student interest, initiative, and responsibility. The results of the studies of these and other important problems in higher education are of the greatest significance. They provide facts essential to an understanding of many practical situations and objective evidence of the merits of different procedures, and not infrequently they suggest fundamental principles that have wide application.

Seashore concludes that most of the current reorganization of educational methods and procedures centers around the slogan, "Keep the student busy at his highest natural level of successful achievement in order that he may be happy, successful, and good." He has grouped what he considers the most promising and effective new movements under fourteen points.[2]

1. A college-qualifying examination, apart from the standard college entrance board examination, differentiating natural aptitude for college work from training.
2. Departmental placement examinations for the orientation of the student within the department and for the furnishing of a general profile of student capacity to the administration.
3. Sectioning of classes on the basis of ability.
4. Organization of instruction on the basis of individual, group, or project methods, permitting free progress of the individual at his natural level for competition and progress.
5. Honors systems, including honors courses and other forms of free and competitive work for distinction.
6. Honor credit, or the gaining of time on the basis of superior work.
7. Elimination of competitive introductory courses and the organization of single basic courses in which different levels of progress are recognized.

[2] C. E. Seashore, *The Placement Examination as a Means for the Early Discovery and Motivation of the Future Scholar*, pp. 4–5. Washington: National Research Council, 1925.

8. Placing the ablest teacher in the department in charge of the basic course.
9. Initiatory, orientation, and final survey courses.
10. Facilities for giving intellectual comradeship to the ablest students, among themselves and with the faculty.
11. Development of a system of character record and the motivation of character as such.
12. Development of adequate educational personnel service.
13. Technological training with a natural finishing place in the junior college for students of applied science and art.
14. Differentiation of the functions of institutions.

Klein says that general tendencies in higher education during the biennium 1924–1926 may be summarized in broad terms by four statements:[3]

1. Discussion of the basic objectives of higher education has been conducted in general from the standpoint of emotional prejudice, rather than upon the basis of scientific collection and treatment of facts for the purpose of defining the obligations and the position of higher education in its relations to the present social and economic order.
2. Modification of conventional educational procedure and creation of new procedures have, on the contrary, been characterized by increasing thoroughness of investigation in accordance with scientific methods.
3. Redefinition of objectives and adaptation of organization and procedure have been motivated by interest in the individual student.
4. Modification of the educational organization and of both content and methods of instruction has been characterized by intensification of the educational process.

Kelly states that during 1928 four movements seem worthy of consideration: (1) increasing emphasis upon methods of teaching by members of college faculties, (2) emphasis on studies of student personnel, (3) develop-

[3] A. J. Klein, *Higher Education: Biennial Survey* 1924–1926, pp. 1–2. Bureau of Education Bulletin No. 34, 1927. Washington: Bureau of Education.

ment of germs of independent study, and (4) closer correlation between high school and college.[4]

Koos[5] presents data on the growth of the junior college, one of the most significant forms of reorganization in higher education, over the five-year period from 1922–1927. He reports that in 1927 there were 325 junior colleges in operation, well over a hundred more than in 1922.

Payne surveys the advances in normal schools and teachers colleges, in which great changes have taken place during the decade.[6] Forty-seven teacher-training institutions for which he had figures increased 240 per cent in attendance in the decade 1917–1926. He also discusses advances in subject matter offered, increase in number of graduates, and improvement in the training of the staff.

MacCracken considers as outstanding in the decade's advance the work of the American Association of University Professors, American Council on Education, National Research Council, Institute of International Education, regional associations, Carnegie Corporation, Guggenheim, Rockefeller, Rhodes, and Commonwealth Fund scholarship committees, and various miscellaneous groups and individuals in colleges and universities.[7] The writer would add to the agencies and contributions listed in the preceding sentence the Commonwealth Fund, General Education Board, Association of American Colleges,

[4] F. J. Kelly, "Higher Education in 1928," *Journal of the National Education Association*, XVIII (February, 1929), 59.

[5] L. V. Koos, "Recent Growth of the Junior College," *School Review*, XXXVI (April, 1928), 256–66.

[6] B. R. Payne, "Ten Years of Progress in the Service Rendered by Normal Schools and Teachers Colleges," *Peabody Journal of Education*, VI (September, 1928), 67–72.

[7] H. N. MacCracken, "Notes on a Decade's Advance in Higher Education," *Progressive Education*, VI (January-March, 1929), 23–7.

National Society for the Study of Education, National Society of College Teachers of Education, North Central Association of Colleges and Secondary Schools, Progressive Education Association, Department of Superintendence of the National Education Association, United States Bureau of Education, International Institute of Teachers College of Columbia University, research bureaus of universities such as those at the University of Illinois and Ohio State University, Sections Q and I of the American Association for the Advancement of Science, American Psychological Association, American Educational Research Association, monograph series such as the *Teachers College Contributions to Education* (Columbia) and *Supplementary Educational Monographs* (Chicago), development of professional courses for the training of college teachers, and the tremendous increase in literature of all kinds dealing with problems of higher education.

Major Trends in Foreign Education.—Abel[8] reviews significant changes which took place in education in foreign countries, especially in Europe, Asia, and South America, during the biennium 1924–1926.

> The major changes in world education in these years center largely in the Eurasian countries and grow out of the war and the new political situations set up by the treaties of peace. One of the most marked movements was the establishment of certain official international relationships in education made obligatory by treaties, constitutions, and laws; and these were accompanied by a general widening and strengthening of activity, official and unofficial, in international education affairs. Another important aspect is manifest in the establishment of ministries of education and the development of administrative school organizations in the newly created nations, together with various changes in the national educational offices of other countries. Closely connected

[8] J. F. Abel, *Major Trends of Education in Other Countries*, pp. 1–2. Bureau of Education Bulletin No. 13, 1928. Washington: Bureau of Education.

with both is the evident willingness of the different countries to make substantial monetary provision for education at a time when many of them were forced into drastic retrenchments in their national expenditures or were even in a state of national bankruptcy.

The almost universal adoption of republican forms of government which followed the war naturally led to inquiries into the educational status of the people and their ability to understand and assume the obligations they were incurring, with the consequent discovery of enormous numbers of illiterates and near-illiterates and subsequent attempts of many kinds to give them at least the rudiments of an elementary education.

In the realm of human training below the levels of secondary instruction the lowered birth rate during the war began to show in greatly decreased school enrollments in several European countries, and coincident with this realization of the loss of human wealth the national governments took many new measures in behalf of women and children, lengthened the term of compulsory school attendance, and generally gave to elementary education a better adaptation to the needs of child life.

Secondary schools were still increasing in numbers and enrollment. The more pronounced tendencies in this field included emphasis on training during the early years of adolescence, about 12 to 15, and modifications that would make all of secondary education more practical and more available to the children of all classes of people.

The general trends in higher education were in the direction of greatly increased enrollments in the number of resident students and those taking degree courses, especially in scientific fields; a broadening of the functions of universities and colleges especially in giving extension courses in both special subjects and cultural training; and a better grasp of the proper relation of the university to the nation.

The yearbooks of the International Institute of Teachers College, Columbia University, are valuable studies in comparative education.[9] Each year some

[9] Five volumes: *Educational Yearbooks of the International Institute of Teachers College, Columbia University*, 1924, 1925, 1926, 1927, 1928. Edited by I. L. Kandel. New York: Macmillan Co., 1925, 1926, 1927; Bureau of Publications, Teachers College, Columbia University, 1928, 1929.

special problem is treated in detail in the United States, England, France, and Germany, in addition to summaries of educational developments and reorganizations in a selected group of countries somewhat less important educationally. The fourth yearbook, which covers 1927, brings the total of the educational systems described up to forty-three, and includes a treatment of teacher training in the four countries mentioned in the preceding sentence. Reference may be made to Learned's comparative treatment of education in the United States, England, France, and Germany, although some criticism has been offered with regard to the validity of the conclusions reached.[10] Separate discussions of educational reorganizations in Prussia and France are available.[11]

Trends in Junior-College, Liberal-Arts, Teacher-Training, Professional, and Adult Education

The Junior College.—Probably the most significant development of the decade in higher education is the remarkable growth of the junior-college movement. As was pointed out earlier in this chapter, Koos[12] found 325

[10] W. S. Learned, *The Quality of the Educational Process in the United States and in Europe.* Carnegie Foundation for the Advancement of Teaching Bulletin No. 20, 1927. New York: Carnegie Foundation for the Advancement of Teaching. Pp. x + 134.

[11] I. L. Kandel and Thomas Alexander, *The Reorganization of Education in Prussia.* Studies of the International Institute of Teachers College, Columbia University, No. 4. New York: Teachers College, Columbia University, 1927. Pp. 648.

I. L. Kandel, *The Reform of Secondary Education in France.* Studies of the International Institute of Teachers College, Columbia University, No. 2. New York: Teachers College, Columbia University, 1924. Pp. 154.

[12] L. V. Koos, "Recent Growth of the Junior College," *School Review,* XXXVI (April, 1928), 256–66.

junior colleges in operation in 1927, exclusive of the lower divisions of colleges and universities; this is well over a hundred more than were in operation in 1922. He considers it a remarkable development that the junior college has grown from only thirty-eight units in 1912 to half the total number of four-year colleges and universities, exclusive of state normal schools and teachers colleges.

Whitney reports 145 public and 237 private junior colleges in operation, a total of 382 units.[13] He suggests certain social and economic criteria to be considered in the establishment of a public junior college:

1. A community attitude favorable to generous support of public school enterprises.
2. A reasonably high level of culture in the community.
3. A general understanding of desirable values in public education.
4. A possible conception of legitimate junior college purposes and functions.
5. A determination of the type of junior college curriculum which will be most useful and most acceptable in the community.
6. A determination of the feasibility of the establishment of a junior college at the time of the proposal in terms of existent community attitudes, the district indebtedness, other more insistent improvements in city or school district, and present status of the lower schools.
7. A reasonable attitude of local independence in support of a proposed junior college.
8. An adequate background of assessed valuation in the district determined by the making of a detailed budget for the first year of operation of the junior college.
9. A community population sufficiently large.

[13] F. L. Whitney, "Present Status of the Junior College in America," *Phi Delta Kappan*, XI (October, 1928), 89–92.

Also see T. C. Holy, "Criteria for the Establishment of Public Junior Colleges," *High School Teacher*, V (April, 1929), 118–20, 133–4.

10. A school mill tax capable of enlargement.
11. A reasonable state attitude in state aid for the lower schools.
12. An indication in the present use of community wealth that a junior college would be well supported.
13. The presence, absence and character of accessible college opportunities, public and private.
14. Prospects for an adequate student body as determined by present high school enrollment, size of graduating classes, and proportion who attend college both from the local district and from high schools in an available service area outside.
15. A creditable ratio of high school enrollment to school census.
16. A creditable ratio of high school graduates to total high school enrollment.

As early as 1925 Koos predicted the articulation of a four-year or five-year teachers-college curriculum with the junior college so as to encourage the prospective student to transfer to the teacher-training institution at the beginning of the third year of college work beyond high-school graduation.[14] He also predicted the elimination of many of the weaker liberal-arts institutions because of the junior college whose graduates will go directly to the university or polytechnic institute. Morrison paints a striking picture of the American secondary school and university of the future; according to his definition of secondary education the junior-college period is included.[15]

In the end there will be a school organization in the home town, even in rather small villages, which will carry nearly all young

[14] L. V. Koos, *The Junior-College Movement*, chapter vii. Boston: Ginn and Co., 1925.

Also L. V. Koos, "The Junior College," *Higher Education in America*, Part I, chapter i. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

[15] H. C. Morrison, "The Secondary Period and the University," *School Review*, XXXVII (January, 1929), 16–28.

people to the end of the period of general education in the sense in which I am using that term. If they continue beyond the secondary school, it will be not for the purpose of completing their education but rather for the purpose of special training and the pursuit of mature intellectual interests. It is a wonderful prospect, but I believe that confidence in the outcome is abundantly justified by the whole body of facts which are before us.

The universities—and many will be required—will bear little resemblance to the crowded cities of bricks and mortar and inadequate faculties with which we have been familiar for the past twenty years. They will no longer allow the legitimate work of a university to be swamped by the futile task of guiding immature students in the art of accumulating credits, and they will no longer attempt to do the work which the properly equipped secondary school can do much better. Further, they will devote some part of their energy with clear purpose to the problem of systematic and adequate academic training for teachers in the secondary school. The term "graduate school" will probably be omitted from the terminology. Students will appear when they are evidenced to be ready for university work, and they will receive their advanced degrees when the evidence shows that they are in fact Masters or Doctors, as the case may be.

Since the establishment of the junior high school the typical secondary-school organization which has both junior high school and junior-college units has been the 6-3-3-2 plan, although various other combinations have been employed. However, it has been pointed out that these units are too small, too numerous, and do not possess the natural and logical advantages of the 6-4-4 or 5-4-4 plans. Brothers reports a definite tendency in the direction of the 6-4-4 or 5-4-4 form of organization and lists reasons for preferring this grouping of secondary-school units, as given by administrative officers of junior colleges.[16] Eby describes the 6-4-4 plan in operation

[16] E. Q. Brothers, "Present-Day Practices and Tendencies in the Administration and Organization of Public Junior Colleges," *School Review*, XXXVI (November, 1928), 665–74.

at Hillsboro, Texas.[17] Ewing states the progress made in organizing the city school system of Pasadena, California, on the 6-4-4 basis.[18] He believes that no city system has yet been completely organized on this basis. Wood outlines a suggested curriculum for the four-year junior college.[19] Other current treatments of junior-college reorganization are listed in the chapter bibliography under the names of Barrows, Carpenter, Chambers, Coats, Cooper, Ewing, Foster, Fuller, Haggerty, Kemp, Koos, McDowell, OBrien, Proctor, Shaw and Whitney, Stowe, Wellemeyer, Whitney, and Winfield.

A question may be raised with respect to whether the junior-college movement as exemplified in California and the 6-4-4 plan really solve one of the most fundamental problems involved in the reorganization of secondary education, namely, economy of time. According to such a plan the student normally finishes his general education at the age of twenty and at the completion of his professional education is from twenty-four to twenty-six years of age. The German student finishes his general education by the age of eighteen and thus saves two years of time as compared with the American

[17] Frederick Eby, "The Four-Year Junior College and the Advent of the Six-Four-Four Plan," *Educational Administration and Supervision*, XIV (November, 1928), 536–42.

Also W. J. Cooper, "Some Advantages Expected to Result from Administering Secondary Education in Two Units of Four Years Each," *School Review*, XXXVII (May, 1929), 335–46.

[18] W. F. Ewing, "The 6-4-4 Plan of Educational Reorganization," *The Junior College*, chapter xi. Edited by W. M. Proctor. Stanford University, California: Stanford University Press, 1927.

[19] J. M. Wood, "The Four-Year Junior College," *Problems of College Education*, chapter xii. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

youth; certainly German scientists, physicians, chemists, and engineers have not proved inferior to those trained in America. At least one institution in this country, the University of Chicago through its high school and its junior college, has made a successful attempt to complete the general education of youth in less than fourteen years.

Reorganization and Adjustment in the Liberal-Arts College.—In spite of the prediction that the liberal-arts institution, America's unique contribution to higher education, will tend to be eliminated in time due to the development of the junior college as a part of the public-school system, many workers believe that it will always have a distinct type of service to render. Lowell states that while some colleges will be unable to keep up the pace and will become junior colleges, three types of institutions which give the Bachelor's degree are likely to result: (1) the independent college of the arts and pure sciences with a course of four years and a definitely cultural intent; (2) colleges, connected for the most part with state universities, which after the first two years give the majority of their students mainly professional instruction with a vocational aim; and (3) universities with professional schools open as a rule only to graduates, and with undergraduate departments or colleges whose object, like that of the independent liberal-arts institutions, is clearly cultural.[20] Cowling is equally certain of the future of the four-year arts college, which he considers an important contribution to the educational organization of the world.[21] Byers

[20] A. L. Lowell, "The Outlook for the American College," *The Effective College*, chapter xxvi. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

[21] D. J. Cowling, "The Future of the Liberal Arts College," *Problems of College Education*, chapter xxxi. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

suggests that three years of liberal-arts training may be sufficient to provide the cultural background toward which this institution aims.[22]

Among liberal-arts institutions a number of trends and advances are significant: separation of the college into upper and lower divisions; a redefinition of aims and objectives; development of new curriculums and courses; adoption of new teaching procedures such as committee, project, problem, laboratory, and cooperative and part-time methods designed to provide more adequately for individual differences in needs, interests, and capacities; provision for the exceptional student by honors courses, general reading, tutors, and independent study; intensive study of student needs, interests, capacities, ambitions, and reactions; establishment of systems of guidance and personnel relationships including freshman week, orientation courses, and intelligence and aptitude testing; improvement in the measurement of instruction through utilization of new-type tests, more objective methods of examination, and diagnostic and remedial work; administrative participation in the improvement of teaching; and experimental evaluation of new procedures and plans. Two 1929 yearbooks include helpful summaries of reorganizations and adjustments which are taking place in the liberal-arts college.[23]

[22] N. E. Byers, "Is the American College Still Needed?" *School and Society*, XXVIII (December 1, 1928), 673–5.

[23] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, chapter ii. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

The Articulation of the Units of American Education, chapters xvii, xviii. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

Also W. W. Charters, "The College of Liberal Arts," *Higher Education in America*, Part I, chapter ii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

The devices employed by administrative officers in stimulating the improvement of teaching may be grouped under the following nineteen headings:[24]

1. Individual conference with department head concerning instructional problems.
2. Faculty departmental meetings to discuss instructional problem.
3. Systematic constructive supervision.
4. Supervisory bulletins.
5. Library facilities for professional reading (instructional methods, problems, etc.).
6. Demonstration teaching by skilled instructors.
7. Directed visitation to other courses.
8. Lectures relating to college teaching problems by visiting specialists.
9. Courses on problems of college instruction.
10. Service on curriculum committees.
11. Lighter teaching load to permit study or research.
12. Clerical assistance for routine tasks.
13. Opportunity to carry on experimental teaching.
14. Financial aid in carrying on experimental teaching.
15. Salary schedule.
16. Provision for attendance at state and national professional meetings.
17. Sabbatical leave with partial payment of salary.
18. Summer release to permit study.
19. Participation in administrative responsibilities.

Interesting accounts of current methods of teaching in the liberal-arts institution are available.[25] Other discussions of liberal-arts problems of reorganization may be found in the chapter bibliography under the names of Charters, Coffin, Frank, Hill, Jaqua, Kelly, McConn, Wilbur, and Wilkins.

[24] W. S. Gray and Others, *op. cit.*, pp. 26–7.

[25] R. L. Kelly, "The Colleges as Educational Laboratories," *Association of American Colleges Bulletin*, XIII (November, 1927), 322–47.

Trends in Teacher-Training Institutions.—In response to a request for information relative to current educational reforms in teacher-training institutions, Gray received reports from forty schools and colleges of education, one hundred departments of education in liberal-arts colleges, and forty-five normal schools and teachers colleges.[26] In each instance more than half of the replies contained valuable material. Significant steps taken in teacher-training institutions relate to: student personnel including selective admission, sectioning of students, continuous study of the needs of students, and freshman week and orientation courses; curriculum construction including analytical studies of curriculum problems, reorganization of specific courses or series of courses, significant changes in curriculums, and changes in professional courses; improvements of teaching techniques including cooperative teaching and criticism, use of special techniques, reduction of the amount of formal class work and increase in student responsibility, changes in the form and content of examinations, use of student opinion and rating scales, and class visitation and conferences; and administration of the improvement of teaching.

The methods employed by administrative officers in promoting the improvement of teaching include the following procedures:[27]

1. A self-survey by means of which the important problems of instruction which the institution faces are brought clearly to the attention of every staff member for serious consideration.

2. Annual conferences of the teacher-training institutions of a state concerning problems of mutual interest. For example, the Departments of Education and Psychology of the Michigan State Teachers Colleges meet annually to discuss phases of their work which need revision or readjustment and to report on experiments

[26] W. S. Gray and Others, *op. cit.*, chapter iii.

[27] *Ibid.*, pp. 44–6.

and other studies of mutual interest and value. Similarly, the Training Departments of these colleges meet annually to consider problems relating to the preparation and work of student teachers.

3. Conferences each year with the teachers and administrative officers of the state to acquaint the staff with the needs of the field and to secure judgments concerning desirable changes.

4. The organization of the faculty into a special body to study instructional problems and to do constructive work. In some institutions an organization is formed which is known as the Society for the Promotion of College Teaching. In other institutions the Faculty Education Club devotes its programs to problems relating to the improvement of instruction. Not infrequently, round-table conferences are organized to which all interested faculty members are invited.

5. Well-planned faculty meetings at greater or less frequency devoted to studies and discussions of the problems of instruction. Various plans are adopted by different faculties. For example, one institution reports the study of the results of a state survey involving their school, another the study of Learned's report on *American and European Universities and Secondary Schools*, a third the study of recent professional literature in order that "more modern techniques might gradually find a place in the classroom."

6. Departmental and special group conferences held at frequent intervals to consider matters relating to the improvement of instruction. In some institutions, practically all constructive work is done through departmental conferences. Most institutions reporting provide conferences for special groups, such as a weekly conference between the members of the department of education and the training school, to secure closer co-ordination of theoretical with practical work.

7. Prominent lecturers secured at frequent intervals to discuss specific instructional problems.

8. Members of the staff required to teach in the demonstrative school as a means of improving their own techniques and of checking theory with practice.

9. Interclass visitations and conferences required.

10. Courses on college teaching, the psychology of learning, and other problems of higher education provided for new members of the staff.

11. A complete set of books relating to problems of instruction in higher institutions and the problems of teaching particular

subjects provided in the dean's office or in the library for the use of faculty members.

12. Appointment of instructors to the faculty who are adequately trained. A notable raising of standards in this connection was reported by teachers colleges and normal schools. The need of broad cultural training and of modern professional training by members of the staff was emphasized in the reports from all types of teacher-training institutions.

13. Provision for sabbatical leave and for absences during the summer to study in a recognized institution. In some institutions as many as 50 per cent of the less thoroughly trained faculty members were required to attend summer school in 1927.

14. Leave of absence granted during the regular year for travel or to do additional study and research in higher institutions.

15. Defray expenses of faculty members who attend conferences and participate in other activities for the purpose of improving instruction.

16. A news-letter issued regularly from the dean's office devoted specifically to matters relating to the improvement of instruction.

17. Size of classes limited.

18. Special efforts made to improve material equipment and library facilities.

19. Appointment of student assistants to aid instructors with routine duties.

20. Reduce teaching load when faculty members are assigned important responsibilities relating to the improvement of instruction.

Reference should be made to a detailed study of the problem of articulation in teacher-training institutions.[28] The principles of articulation are stated as: liberty,

[28] *The Articulation of the Units of American Education*, Part V. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

Also John Dewey, "General Principles of Educational Articulation," *School and Society*, XXIX (March 30, 1929), 399–406. Indicates two ways of eliminating waste in education—administrative and personal, psychological, or moral.

John Dewey, "Principles of Educational Articulation," *Journal of the National Education Association*, XVIII (April, 1929), 117.

equality, fraternity or voluntary cooperation, standardization, adaptation, and economy and efficiency. In applying these principles of articulation to teacher-training agencies there are certain variable conditions which must be met in every community.[29]

1. Prospective length of teaching service of those who are to be trained.
2. Their native capacity, personal adaptability, and general fitness for the profession of teaching.
3. Extent and quality of their antecedent education.
4. State and local funds available for the professional education of teachers.
5. Amount of time allotted to the "pre-service" program of teacher training.
6. Location of the teacher-training institution in relation to its field of service.
7. Nature and relative complexity and difficulty of the occupations within the profession for which training is required.
8. Economic conditions and the general attitude of the community toward education and the profession of teaching, and the extent to which these affect the choice of student material for teacher training.
9. Quality of the faculty and the material equipment of teacher-training agencies.
10. Prospective remuneration and security of tenure available to those who are preparing to teach.
11. Relations of the faculties of teacher-training institutions to the field forces of education, to the extent that these affect the choice of students and their "in-service" as well as their "pre-service" training.
12. Extent and character of the changes going on within the school systems served, and the extent to which these changes call for the re-education of teachers after they have entered the service.
13. State policy and program of education, and the legislation passed or anticipated affecting standards of teaching and the types and qualities of school work which teachers will be expected to do.
14. Accessible opportunities for broader culture and professional improvement available for teachers in service.

[29] *The Articulation of the Units of American Education*, p. 399.

Reeves summarizes current efforts to improve college instruction as analyzed through visits to eighty-seven institutions over a four-year period.[30] He lists seven classroom devices, four types of education courses, and nine administrative procedures. The seven classroom devices include: (1) the lecture-demonstration method for science classes, (2) project and problem methods, (3) objective testing, (4) supervised and directed study, (5) diagnosis and remedial work, (6) student-teacher cooperative investigation, and (7) individualized instruction. The four types of education courses designed to improve college instruction are: (1) resident courses in higher education, (2) extension courses in higher education offered for credit, (3) non-credit extension courses in higher education, and (4) education courses not designed primarily for college teachers. The nine administrative procedures are as follows:[31]

1. Classroom inspection and supervision of instruction.
2. Reports on the efficiency of teaching.
3. Administrative devices for individualizing instruction.
4. Studies of the classification of students, student load, and duplication in the content of courses.
5. Orientation programs.
6. Ability grouping.
7. Separation of the staff into research and teaching groups.
8. Arrangements for the attendance of staff members at scientific and professional meetings.
9. Organization of the college program for experimental purposes.

According to Reeves, the officers of one institution reported that the program for the improvement of instruction had at least six desirable results: (1) an

[30] F. W. Reeves, "A Critical Summary and Analysis of Current Efforts to Improve College Teaching," *Phi Delta Kappan*, XI (October, 1928), 65–71.

[31] *Ibid.*, p. 66.

improved professional spirit as evidenced by increased interest in faculty meetings, (2) increased use of objective tests, (3) improvement in the distribution of marks, (4) development of plans for some form of personnel directing agency, (5) requests from teachers for an extension class in college teaching methods, and (6) marked interest in professional literature.

Attention has been directed a number of times in preceding chapters to Charters and Waples' study of teacher training.[32] An interesting series of descriptions of experiments at Colorado State Teachers College, which appeared originally in *Educational Administration and Supervision*, has been made available in book form.[33] The problems of teachers-college administration treated are: educational research, supervision of instruction, intelligence tests, extension service, student participation, finance, and cooperation with other institutions. Other studies and discussions of the improvement and reorganization of method and the curriculum in teacher-training institutions may be found in the chapter bibliography under the names of Beck, Bennett, Benson,

[32] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study*. Chicago: University of Chicago Press, 1929. Pp. xx + 666.

[33] G. W. Frasier and Others, *Experiments in Teachers College Administration*. Baltimore: Warwick and York, 1929. Pp. 76. Also in *Educational Administration and Supervision*, XIV (January, March, April, September, October, 1928); XV (January, February, 1929).

Also C. H. Judd, "The School of Education," *Higher Education in America*, Part I, chapter vi. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

C. H. Judd, "Teachers Colleges: Centers of Progressive Education," *School Executives Magazine*, XLVIII (May, 1929), 398–400. Predicts less isolation and more extensive productivity by 1950.

G. S. Counts and David Snedden, "What Is a School of Education?" *Teachers College Record*, XXX (April, 1929), 647–60.

Birkelo, Bliss, Brown, Evenden, Gray, Haertter and Smith, Mead, Mersereau, Miller, Nutt, Peik, Reinoehl, Russell, Walk, and Wrinkle.

Discussions of College Teaching with General Applications.—It is possible only to list a number of helpful analyses and discussions, many of which include specific suggestions for the improvement of college instruction. Most of the references cited include information which is equally applicable in the several types of institutions in higher education. These discussions may be located in the chapter bibliography under the names of Bamberger, Blackwell and Crandall, Bohannan, Breed, Charters, Eckhardt, Evenden, Ford, Fries, Haggerty, Hill, Jones, Judd, Kelly, Klein, Knight, Pace, Patterson, Sanders, Snavely, Taylor, Tulloss, and Wilkins.

Trends in Professional Schools.—In view of the appearance of two recent summaries of reorganizations in professional education, it seems sufficient at this time only to list certain major publications in order that the reader with a special interest in a given field may secure more detailed information. The 1929 yearbook of the National Society of College Teachers of Education includes a survey of efforts to improve instruction in schools of agriculture, engineering, and medicine, and in non-professional graduate schools and departments.[34] The 1929 yearbook of the Department of Superintendence[35] includes descriptions of schools or colleges of engineering, medicine, agriculture, commerce, journalism, pharmacy, dentistry, theology or divinity, law, education, and graduate work, as well as a summary and interpretation of studies relating to training in pharmacy, dentistry, medicine, library service, law,

[34] W. S. Gray and Others, *op. cit.*, chapter iv.

[35] *The Articulation of the Units of American Education*, *op. cit.*, chapters xvii, xxii.

and engineering. Studies relative to training or surveys and statistics in the various professional fields are available: pharmacy,[36] dentistry,[37] medicine,[38] library service,[39] law,[40] engineering,[41] agriculture,[42] business,[43]

[36] W. W. Charters and Others, *Basic Material for a Pharmaceutical Curriculum.* New York: McGraw-Hill Book Co., 1927. Pp. 366.

[37] W. J. Gies, *Dental Education in the United States and Caanda.* Carnegie Foundation for the Advancement of Teaching Bulletin No. 19. New York: Carnegie Foundation for the Advancement of Teaching, 1926. Pp. 692.

W. J. Gies, "The School of Dentistry," *Higher Education in America,* Part I, chapter v. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

F. C. Waite, *Progress of Dental Education.* Bureau of Education Bulletin No. 39, 1925. Washington: Bureau of Education. Pp. 28.

[38] Abraham Flexner, *Medical Education.* New York: Macmillan Co., 1925. Pp. x + 334.

Rockefeller Foundation, Division of Medical Education, *Methods and Problems of Medical Education,* Tenth Series. New York: Rockefeller Foundation, 1928. Pp. 344.

Preliminary Report of the Commission on Medical Education. Association of American Medical Colleges, 1927.

Second Report of the Commission on Medical Education. Association of American Medical Colleges, 1928.

N. P. Colwell, *Medical Education.* Bureau of Education Bulletin No. 31, 1925. Washington: Bureau of Education. Pp. 14.

N. P. Colwell, *Medical Education,* 1924–1926. Bureau of Education Bulletin No. 9, 1927. Washington: Bureau of Education. Pp. 14.

I. S. Cutter, "The School of Medicine," *Higher Education in America,* Part I, chapter x. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

[39] C. C. Williamson, *Training for Library Service.* New York: Carnegie Corporation of New York, 1923.

G. A. Works, *College and University Library Problems.* Chicago: American Library Association, 1927. Pp. xii + 142.

Annual Reports of the Board of Education for Librarianship. Chicago: American Library Association, 1925, 1926, 1927, 1928.

nursing,[44] and professional-school statistics (theology, law, medicine, dentistry, pharmacy, osteopathy, and veterinary medicine).[45]

Dorothy A. Plum, *A Bibliography of American College Library Administration*, 1899–1926. New York State Library Bulletin, No. 77. Albany, New York: University of the State of New York Press, 1926. Pp. 84.

Tse-Chien Tai, *Professional Education for Librarianship.* New York: H. W. Wilson Co., 1925.

[40] A. Z. Reed, *Present Day Law Schools in the United States and Canada.* Carnegie Foundation for the Advancement of Teaching Bulletin No. 21. New York: Carnegie Foundation for the Advancement of Teaching, 1928.

A. Z. Reed, *Training for the Public Profession of the Law.* Carnegie Foundation for the Advancement of Teaching Bulletin No. 15. New York: Carnegie Foundation for the Advancement of Teaching, 1921. Pp. 598.

A. Z. Reed, *Recent Progress in Legal Education.* Bureau of Education Bulletin No. 3, 1926. Washington: Bureau of Education. Pp. 30.

Roscoe Pound, "The School of Law," *Higher Education in America*, Part I, chapter ix. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

[41] C. R. Mann, *A Study of Engineering Education.* Carnegie Foundation for the Advancement of Teaching Bulletin No. 11. New York: Carnegie Foundation for the Advancement of Teaching, 1918. Pp. 140.

Land-Grant College Education, 1910–1920. Part IV, Engineering and Mechanic Arts. Bureau of Education Bulletin No. 5, 1925. Washington: Bureau of Education. Pp. 76.

W. E. Wickenden and H. P. Hammond, *Investigation of Engineering Education.* Society for the Promotion of Engineering Education Bulletins Nos. 1–14. New York: Society for the Promotion of Engineering Education.

W. E. Wickenden, "The School of Engineering," *Higher Education in America*, Part I, chapter vii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Report of the Committee on Chemical Engineering Education of the American Institute of Chemical Engineers. New York: American Institute of Chemical Engineers, 1922. Pp. 8.

Adult and Parental Education.—In connection with the discussion of adult learning in chapter v a number of general references on adult education were listed; it seems unnecessary to repeat them at this time. Two 1929 yearbooks have provided a helpful treatment of problems

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Report of the Committee on Technical Education of the Mining and Metallurgical Society of America. American Institute of Mining and Metallurgical Engineers Bulletin No. 150. New York: American Institute of Mining and Metallurgical Engineers, 1921.

Engineering Education and American Industry. Special Report No. 25. New York: National Industrial Conference Board, 1923. Pp. 26.

Education for Highway Engineering and Highway Transport. Proceedings of the Second National Conference. Washington: Highway Education Board, 1922. Pp. 248.

[42] *Land-Grant College Education,* 1910–1920. Part III, Agriculture. Bureau of Education Bulletin No. 4, 1925. Washington: Bureau of Education. Pp. 108.

G. A. Works, *Agricultural Education.* Bureau of Education Bulletin No. 32, 1925. Washington: Bureau of Education. Pp. 12.

W. J. Greenleaf, *Land-Grant Colleges, June* 30, 1926. Bureau of Education Bulletin No. 37, 1927. Washington: Bureau of Education. Pp. 76.

A. C. True, "The School of Agriculture," *Higher Education in America,* Part I, chapter iii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

[43] *Statistics of Private Commercial and Business Schools,* 1924–1925. Bureau of Education Bulletin No. 14, 1926. Washington: Bureau of Education. Pp. 30.

W. W. Charters and I. B. Whitley, *Analysis of Secretarial Duties and Traits.* Baltimore: Williams and Wilkins Co., 1924. Pp. 186.

L. C. Marshall, "The School of Commerce," *Higher Education in America,* Part I, chapter iv. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

[44] May A. Burgess, *Nurses, Patients, and Pocketbooks:* Report of a Study of the Economics of Nursing. New York: Committee

of articulation in the field of adult education[46] and a discussion of organization, development, and method in parental education.[47] A few other sources of information in the field of adult education should be mentioned.[48]

Graduate Study and Research[49]

Revision of Requirements for Graduate Degrees.—Of late much discussion concerning reorganization in the graduate school has taken place. The requirements

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on the Grading of Nursing Schools (370 Seventh Avenue), 1928. Pp. 618.

Statistics of Nurse Training Schools, 1926–1927. Bureau of Education Bulletin No. 2, 1928. Washington: Bureau of Education. Pp. 58.

[45] *Statistics of Universities, Colleges and Professional Schools*, 1925–26. Bureau of Education Bulletin No. 40, 1927. Washington: Bureau of Education. Pp. 168.

[46] *The Articulation of the Units of American Education*, chapter xxvii. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

[47] *Preschool and Parental Education.* Twenty-Eighth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1929. Pp. xii + 832.

[48] C. M. Herlihy, *Adult Education for Foreign-Born and Native Illiterates.* Bureau of Education Bulletin No. 36, 1925. Washington: Bureau of Education. Pp. 12.

Methods of Teaching Adult Aliens and Native Illiterates. Bureau of Education Bulletin No. 7, 1927. Washington: Bureau of Education. Pp. 58.

L. R. Alderman, *Public Education of Adults in the Years* 1924–1926. Bureau of Education Bulletin No. 18, 1927. Washington: Bureau of Education. Pp. 26.

[49] The problems treated in the remainder of the chapter are discussed in considerable detail in Carter V. Good, *How to Do Research in Education.* Baltimore: Warwick and York, 1928. Pp. 298.

Also see J. H. Tufts, "The Graduate School," *Higher Education in America*, Part I, chapter xi. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

for the Ph. D. degree and the A. M. degree have been under especially close scrutiny. It has been pointed out that the program for the Doctor's degree has remained essentially the same over a period of seventy-five years during which extraordinary educational and cultural changes have transpired. It is also true that many college teachers interested primarily in teaching rather than research are forced by administrative or economic pressure to pursue a program of graduate training with almost exclusive emphasis on research. A parallel situation may be found in the public-school system where the development of higher standards and the rewards of a salary schedule make the Master's degree desirable. Most of these public-school teachers think that they are interested in teaching rather than research. With this brief statement of problems which confront the graduate school, a number of reorganizations of graduate curriculums and discussions of graduate training will be summarized briefly.

The Master's Degree.—There seems to be rather general agreement concerning the desirability of making the Master's (and Doctor's) degree the mark of work done in course. Mead reports that during the school year 1921–22 a total of 1,680 Master's degrees in course and only ninety-five honorary Master's degrees were granted.[50] Of a total of 534 Ph. D. degrees granted in 1920 only two were honorary. Mead is of the opinion, based on a survey of the reactions of administrators and teachers in colleges and universities, that the Master's degree should be awarded only for work in course. This statement would apply with increased emphasis in in the case of the Ph. D. degree.

[50] A. R. Mead, "Shall the Master's Degree Be Conferred *Honoris Causa?*" *School and Society*, XXIII (April 17, 1926), 502–4.

Reeder considers the thesis requirement as perhaps the most characteristic respect in which a graduate curriculum differs from an undergraduate program.[51] He states that the thesis aids in developing intellectual independence, and is at the same time one of the best measures of the degree of intellectual independence attained by the graduate student. An editorial writer deplores the tendency during the past decade to waive the thesis requirement for the Master's degree.[52] It is suggested that even though the thesis, as research, may contribute little to the sum total of human knowledge, certain indirect values may be of considerable importance. These indirect values are expressed as follows:

> The administrators and supervisors of our public schools show more interest in research than ever before. Fifteen years ago the educational conference which based its program on the findings of research attracted the attention only of specialized research workers. Today at the meetings of the National Education Association the sections dealing with scientific investigation attract the largest audiences. Again, a decade ago professional magazines which reported research studies had a very limited subscription list. Today these same magazines are found on the desks of high school principals, superintendents, and other practical workers in the field.
>
> What has brought about this change of attitude? Could it be that these schoolmen have had sufficient experience in writing the master's thesis to learn respect for research and the research worker? Could it be that they started with one point of view and after collecting data throughout the year came to a realization that their previous judgment had been wrong? If it has done nothing more than to cause our administrators to collect all the facts before rendering decisions, the training is thoroughly worth while and should be continued.

[51] W. G. Reeder, *How to Write a Thesis*, pp. 5–6. Bloomington, Illinois: Public School Publishing Co., 1925.

[52] "The Master's Thesis," *University of Pittsburgh School of Education Journal*, III (May-June, 1928), 100–1.

Buckingham has prepared a striking statement of the value of experimentation and investigation to the educational worker, especially the individual who deals with human beings. This statement should have a pertinent application in the case of the student with graduate training in the public-school system who seeks to utilize in the classroom the results of research and to be constantly alert in improving teaching procedures through his or her own investigation and study.[53]

> Finally, their [experiments'] reaction upon the teacher spiritually must not be left out of account. The fresh point of view which research always engenders should not be denied to the teacher. The spirit of inquiry, of open-minded alertness to the problems which arise in teaching, will make the teacher free. It will lead him to seek problems and do something, even though it may be but a little, in their solution. Moreover, it will make him expert as a teacher and will make his calling more attractive. Indeed, when looked at from this point of view the teacher's occupation becomes fascinating. He has children to study—not stones, bugs, fossils or old manuscripts, but the most interesting of all possible materials—namely, human beings. Moreover, he has at hand human beings at their most engaging period—childhood and youth. And his children never grow old. In constant procession they present to him, always at the level of childhood, their innumerable interesting aspects. Yet each is different from the other—different in strength, talent, and character; different in origin, growth, and need. If teaching these children is to include studying them, the job of teaching takes on new meaning. Its scope is broadened. Its meaning is enriched. No other calling may then be compared with it. It is the great adventure.

Slichter outlines a list of suggested standards for the improvement of work for the Master's degree.[54] Craw-

[53] B. R. Buckingham, "The Public-School Teacher as a Research Worker," *Journal of Educational Research*, XI (April, 1925), 235–43.

[54] C. S. Slichter, " 'Debunking' the Master's Degree," *North Central Association Quarterly*, III (March, 1929), 463–7.

ford describes a plan for the guidance of candidates for the Master's degree at the University of Southern California.[55] This scheme involves a number of seminars, taught by different instructors, with an enrollment of not more than twenty students in each group.

Buswell reports a personnel study of 242 graduate students who received the Master's degree in education at the University of Chicago from 1924–1927. The facts disclosed caused Professor Buswell to raise the question of whether the Master's degree is for training in research or teaching.[56]

Numerous problems are suggested by the facts which have been presented. However, in the writer's judgment, the major problem revealed is that of the selection of graduate students. A redefinition of graduate work is being forced. The efforts of the graduate school must be focused either upon the task of stimulating fundamental research on educational problems or upon the task of providing an additional period of training beyond the bachelor's degree, but with emphasis upon practice rather than research. If the former purpose is adopted, the selection of students will need to be much more rigid than if the latter purpose is accepted. Both purposes are worthy; but the mixing of the two in the same department and the granting of the same degree for each will become increasingly difficult as the demand for the master's degree continues to increase. The master's degree needs definition. Either it stands for preliminary training in research or it does not. Perhaps it may be desirable to consider it a teaching degree. The writer does not so believe. The same type of outside pressure which now makes the master's degree in great demand will in another generation or sooner be applied to the doctor's degree. The problem is fundamental. Education must

[55] C. C. Crawford, "Thesis Writing and Training in Research at the University of Southern California," *School and Society*, XXVIII (October 6, 1928), 426–8.

[56] G. T. Buswell, "A Personnel Study of Students Who Have Received the Master's Degree from the University of Chicago," *School and Society*, XXV (June 18, 1927), 730–6.

have men for scientific research; it must also have men skilled in teaching and administration. But the degrees which have formerly represented scientific achievement are more and more being desired by a selection of students whose chief interest is practice rather than research. The writer believes that a clear-cut differentiation between students interested in research and students interested in practice is essential in a subject as new as education. Whatever may be the decision of the graduate school regarding its obligation to give training in practice and regarding its recognition of such training by a degree, its principal obligation will be the selection of a competent group of students and the giving to this group a rigid scientific training which will cumulate in critical, productive scholarship. This type of interest is utterly foreign to many first-year graduate students as now selected.

Possibly the solution of the problem is separate graduate degrees for teaching and for research. Probably adequate training and an appropriate balance between teaching and research activities, with conditions in the college or school system improved so as to facilitate research, is the desired solution when the recipient of a graduate degree takes up his own teaching work. Certainly the teacher who periodically conducts some investigation in the field of his interest will bring to the classroom or laboratory an inquiring attitude which should prove stimulating to students.

The Doctor's Degree.—Charters suggests that since approximately 75 per cent of the Doctors of Philosophy become teachers adequate training in methods and principles of college teaching should be provided.[57] Haggerty's study of three public and four private universities, which deals with the professional work taken up by Doctors of Philosophy on leaving the university, provides

[57] W. W. Charters, "Graduate Schools and College Teaching," *Educational Research Bulletin*, VII (November 14, 1928), 348–9. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

the data on which Charters' recommendation is based.[58] Charters' apt statement of the problem is as follows:[59]

> Seventy-five per cent of all persons receiving the Doctor's degree enter the teaching profession in teachers' colleges and universities. Approximately five hundred of them are engaged each year to give instruction to Freshmen, Sophomores, and upper-classmen in our institutions of higher learning. Frequently, in fact almost always, they have had no training in the principles or techniques of teaching. Few serious attempts are made to bring to their attention the literature regarding the functions and philosophy of education. They know college students chiefly from their own limited experience as individuals who have gone through college. Often these doctors were, while in college, studious individuals who mingled little in the social life of the undergraduates and understood but slightly the typical college student. All they know of teaching is what they have picked up casually in the classrooms as spectators of teaching. They have not studied the problems of constructing courses of study for college students. Of the newer movements in college education and the superior techniques of teaching they know only what they have casually picked up.
>
> The Ph.D. knows the principles, the abstruse problems, and esoteric information of his field. In these he is competent. To adapt what he knows to undergraduates is a different problem. In the solution of this he is amateurishly incompetent.
>
> Fortunately, a few graduate schools have faced the problem and have accepted the fact that they are teacher-training institutions. They are offering courses in college instruction for graduate credit although no institution of which we know requires such courses for a teaching Ph.D. Of professionalized subject-matter courses for college teachers, we know not one. Much, therefore, remains to be done even in those institutions which recognize their obligations.
>
> The chief obstacle in the way of the rapid expansion of the offerings of such courses lies in the dearth of textbooks on methods of college teaching, on the psychology of the college student, on management of college classes, and the like. If such books were

[58] M. E. Haggerty, "Occupational Destination of Ph.D. Recipients," *Educational Record*, IX (October, 1928), 209–18.

[59] W. W. Charters, *op. cit.*

available, the number of graduate schools to offer courses in education would increase at a surprising rate.

Upon the shoulders of men in the field of education squarely rests the responsibility for providing such books. The burden of blame for lack of training in teaching shown by young doctors of philosophy cannot be placed entirely upon the faculties of the graduate schools.

Especially in the field of English has there been heated debate concerning the requirements for the Ph.D. degree. Wykoff[60] refers to ten of these published discussions and urges that both teaching and research degrees be offered in English. He suggests the requirements for the teaching Ph.D. degree in English: (1) three years of satisfactory graduate study, (2) no thesis, (3) intensive survey courses of the whole field of English and American literature, (4) broad but thorough survey courses of other literatures by means of English translations, (5) broad survey courses of fields allied to literature, (6) a reading knowledge of two modern languages, (7) a group of courses in education, (8) a year of actual experience or teaching interneship, and (9) a high standard of scholarship in all courses pursued. Baker questions the value of the Doctor's degree in the teaching of English.[61]

In chapter vi the Harvard, Stanford, and Southern California plans for reorganization of graduate work in education were described briefly. The Harvard program involves professional graduate degrees of Ed.M. and

[60] G. S. Wykoff, "On the Revision of Ph.D. Requirements in English," *English Journal*, College Edition, XVII (March, 1928), 213–20.

Also Kemp Malone, "English Linguistics and the Ph. D.," *English Journal*, College Edition, XVIII (April, 1929), 312–20. Shows that modern English literature is studied in Doctors' dissertations rather than linguistics and Old English.

[61] H. T. Baker, "English and the Ph.D.," *English Journal*, College Edition, XVII (December, 1928), 820–4.

Ed.D.[62] Stanford offers a Doctor's degree (Ed.D.) with emphasis on either administration or teaching rather than research.[63] Southern California offers two new Doctor's degrees in education, one with emphasis on advanced professional preparation and mastery of educational principles and procedures, and the other to provide a master-teacher type.[64] Higbie urges the desirability of a teaching graduate degree for those who have neither the capacity for nor the interest in a research degree.[65] On the other hand, Elliott states that the new D.Phil. program, organized at Oxford to take care of the needs of mature foreign students, is primarily a research rather than a teaching degree.[66]

Pressey studied current opinions relative to the requirements for the Doctor's degree by circularizing 214 recipients of Ph.D. degrees who belonged either to the American Psychological Association or the Educational Research Association.[67] The returns indicated that a

[62] H. W. Holmes, "The New Requirements at Harvard for Degrees in Education," *School and Society*, XXV (June 18, 1927), 707–11.

Also "The New Degrees in Education at the Johns Hopkins University," *School and Society*, XXIX (April 20, 1929), 508. Describes two new degrees, Master of Education and Doctor of Education; no formal foreign-language requirement is included.

"Requirements for Graduate Study at Harvard University," *School and Society*, XXIX (May 4, 1929), 575–6.

[63] "A New Education Degree at Stanford University," *School and Society*, XXVIII (July 7, 1928), 9–10.

[64] "The School of Education of the University of Southern California," *School and Society*, XXVIII (July 21, 1928), 71–2.

[65] E. C. Higbie, "Protect the Ph.D.," *Educational Administration and Supervision*, XIV (November, 1928), 555–8.

[66] W. Y. Elliott, "Opportunities to Study for a Doctorate at Oxford," *School and Society*, XXVIII (December 1, 1928), 685–6.

[67] S. L. Pressey, L. C. Pressey, and Others, *Research Adventures in University Teaching*, pp. 140–7. Bloomington, Illinois: Public School Publishing Co., 1927.

majority of time went to teaching; that many made no use whatever of foreign languages in their work; and that changes were desirable in present requirements for the Ph.D. degree. The changes suggested included modification of the foreign-language requirement, adaptation of training to future needs, and greater freedom from detailed requirements. It was pointed out that the program for the degree had remained essentially the same over a period of seventy-five years during which extraordinary educational and cultural changes had taken place.

Some interesting figures concerning the use of foreign languages and statistics in the preparation of dissertations in education are available. Bay[68] analyzed 204 theses in the series, *Teachers College Contributions to Education*, Columbia University. He raises a question concerning the desirability of the foreign-language requirement for the Doctor's degree in education. The results of his analysis, stated in per cents, are as follows: 1905–1915, employing foreign languages 38, employing statistics 41, employing neither foreign languages nor statistics 30; 1916–1926, employing foreign languages 16, employing statistics 78, employing neither foreign languages nor statistics 18.

Bay recommends as part of the training of a research worker in education a year of philosophy, a year of mathematical analysis at the college level, and a year of statistics with emphasis on statistical analysis.[69]

[68] J. C. Bay, "Tools of Research Needed in the Preparation of Dissertations for the Doctorate in Education," *School and Society*, XXV (January 8, 1927), 53–4.

Also E. C. Hills, "Foreign Language Requirements for the Doctor of Philosophy," *Bulletin of the American Association of University Professors*, XIV (March, 1928), 186–9.

[69] J. C. Bay, "The Training of a Research Worker in Education," *School and Society*, XXV (March 5, 1927), 274–8.

Hunt discusses a number of problems of the graduate school including residence requirements, preliminary examination, dissertation, language examinations, and final oral examination.[70] Lowell suggests that candidates for the Doctor's degree should not be required to take the Master's degree, since they may be delayed and diverted in attaining their real objective by doing so.[71] Eaton describes three policies in effect in guiding the research of candidates for the Doctor's degree: (1) where the candidate participates in the staff research of the university; (2) where the research of students is sharply differentiated from the research of the staff; and (3) an intermediate policy where the candidate keeps in touch with the work of a competent staff member and later when judged competent participates in staff research.[72] Crawford calls attention to the fact that the individual method of training graduate students has certain limitations in that the expert research man may not be skilled in training apprentices in methods of investigation.[73] The apprentice method is time-consuming, since the professor must repeat work with each student, while the student is apt to spend unnecessary hours by the trial and error method in discovering things which could be taught permanently and effectively in a regular course in methods of research. However, Professor Crawford is far from suggesting that a program of direct and formal training is to replace individual work; it is rather to serve as a foundation for individual work and

[70] R. D. Hunt, "The Doctor of Philosophy Degree," *School and Society*, XXIII (January 9, 1926), 31–7.

[71] A. L. Lowell, "The College and the Graduate School," *Educational Record*, IX (January, 1928), 3–8.

[72] T. H. Eaton, "Research and the Training of the Researcher," *Science*, New Series, LXVII (June 22, 1928), 619–20.

[73] C. C. Crawford, "Training Research Workers," *Journal of Educational Research*, XIII (May, 1926), 366–70.

to make possible the continuance of such work on a higher level. A suggested program of training is outlined in some detail.

Symonds describes a course in educational research which is based on an analysis of twenty-one studies in the monograph series, *Teachers College Contributions to Education.*[74] He listed all the different operations that were performed in the theses and in a check list noted the frequency of occurrence. In all 201 items were listed and the fifty having the greatest frequency were selected and organized as the outline of a course in educational research. The emphasis in this course is very largely statistical.

Inquiry among colleges and schools of education (California, Chicago, Columbia, Illinois, Indiana, Iowa, Michigan, Minnesota, New York, Northwestern, Ohio State, Pennsylvania, Pittsburg, Stanford, Texas, Wisconsin, and Yale) indicates a real interest in more effective guidance of graduate students. A composite list of the methods used to promote better graduate work and more satisfactory theses includes: seminar or research courses in which techniques of research, sources of information, bibliographical procedures, and other matters of content and form are treated; lists of accepted theses recommended for examination; individual conferences and individual guidance; advice on selection of courses of special value to the student conducting an investigation; field work such as surveys, testing programs, and internship; scholarships and fellowships involving work as reader, assistant in instruction, and service to educational periodicals; and advice concerning publication of the thesis.

[74] P. M. Symonds, "A Course in the Technique of Educational Research," *Teachers College Record*, XXIX (October, 1927), 24–30.

Conducting and Reporting Research.—Since most of the readers of this book will be actively engaged in, or at least interested in, problems of teaching or administration, it seems appropriate to set forth a brief statement of the issues which confront the research worker, college teacher, or graduate student who conducts original investigation and experimentation. Limitations of space make brevity necessary. It is impossible to cite the large number of references on which the conclusions are based. The reader who considers any of the statements dogmatic will find the supporting evidence available in another source.[75]

The items concerning which teachers and students of educational research should be informed may be stated somewhat dogmatically as follows: (1) a working definition of research and a recognition of the characteristics of scientific investigations, (2) knowledge of the steps involved in scientific thinking, (3) sources of information in the educational literature, (4) knowledge of the technical vocabulary and terminology involved, (5) statement and definition of a problem and a recognition of unsolved educational problems, (6) techniques of investigation available for the collection of data, (7) analysis and organization of data, including tabular and graphic presentation, (8) interpretation of data and formulation of conclusions, (9) reporting research and the preparation of a manuscript, (10) evaluation of educational writings and professional books, (11) training of research workers and guidance of graduate students, and (12) recognition of the present status of education as a science and the

[75] Carter V. Good, *How to Do Research in Education.* Baltimore: Warwick and York, 1928. Pp. 298.

Also see M. E. Haggerty, "Educational Research," *Higher Education in America,* Part II, chapter v. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

progress made to date in the field of educational research. Certain of these problems will be discussed subsequently at greater length.

An examination of the definitions suggested by competent investigators in the field of education indicates that the purpose of educational research is to discover procedures, rules, and principles relating to the various aspects of education; that it is a careful or critical inquiry or examination in seeking facts or principles, a diligent investigation to ascertain something—not merely a search for truth, but a prolonged, intensive, purposeful search; that it is a search for existing truth which has not yet been found by anybody, not a search for those fragments of the truth which already have been discovered and described in books more or less scarce or obscure. Probably a word of caution concerning inaccurate use of the term research is desirable, since the term may come to be applied indiscriminately to writings which are useful to the profession, but in no real sense fundamental educational research. Descriptive accounts of current practices in the different departments of high schools and distribution of information concerning practical classroom experiments, content of courses, and administrative devices are good reading material for school people and should be encouraged, but should not be classified as real educational research which contributes to the understanding of fundamental principles.

In general, authorities are fairly well agreed with respect to the steps to be observed in research. While the five steps listed below are not necessarily sequential, they must be observed at some time in the course of a given investigation of a scientific nature. It may be said that these five steps in research are the same as those in any process of reasoning: (1) the formulation and definition of the problem, (2) the collection and

assembly of necessary and relevant information or data, (3) critical analysis of the data, (4) the development and formulation of hypotheses or possible solutions, and (5) testing the validity of the proposed hypotheses until a satisfactory solution is found.

It has been said that the real scientist is characterized by two strongly rooted urges, an insatiable desire to know the truth and an absolute honesty in reporting what is found. The true research worker reports impartially his findings whether or not they agree with tradition, the findings of colleagues, or his own theories and philosophy. The chief characteristics and requirements of educational research may be listed under five points: (1) mathematical precision and accuracy, (2) objectivity, (3) verifiability, (4) impartiality, and (5) expertness. The reader will note that by using a simple mnemonic scheme the five principles can be kept in mind quite easily; the first letters of the five terms spell the word "movie."

It is possible at this time only to call attention to the various techniques of investigation which may be used in the collection of educational data. These are: philosophical and other subjective methods, historical and legal methods, comparative and survey methods, questionnaire-correspondence and interview methods, statistical methods, experimental methods, case-study methods, and activity-analysis and social-survey methods. The educational worker or student who wishes to become proficient in the use of a given technique of techniques must study carefully appropriate original investigations.

Space permits only brief mention of the desirability of care in the organization of data, adequate information concerning use of tables and graphs, and accuracy and honesty in determining conclusions. Much of the value

of an investigation or experiment depends on the effectiveness with which it is reported. Graduate students and others interested in the preparation of reports of educational investigations should have information concerning the following problems: criteria for planning a report of educational research, careless practices and common errors in educational writings, preparation of graduate theses, maintaining absolute accuracy and intellectual honesty in research reports and other educational writings, hygienic requirements of printed materials and typographical considerations, placing material for publication with an appropriate journal or publisher, seeing articles or books safely through the press, and relations with other writers and publishers. The writer may well give attention to the following items: care in giving citations and footnotes; uniformity in listing references; completeness of information given in bibliographies; English usage, including sentence and paragraph structure; care in presenting tabular, graphical, and statistical material; whether lists of tables, figures, plates, and illustrations are appropriate; preparation of an index; use of introductory, transitional, and summary statements or paragraphs; etc.

Nearly 450 publications dealing with teaching and school administration were issued in 1927. Probably 1,500 to 2,000 articles appeared in educational periodicals during the same year. Since it is humanly impossible for a single individual to read this entire mass of material, methods of evaluating articles and books must be developed as an aid in selecting significant contributions for reading, study, textbook use, and supplementary assignments. Even the comparatively small portion of the total output of educational writings which is perused by a given individual should be subjected to a process of critical evaluation. Undergraduates and graduate stu-

dents, public-school workers, and investigators are frequently confronted with the necessity of determining the significance of a new book or article. This judgment involves an evaluation of both content and form.

A few miscellaneous discussions of the conduct of research will be summarized briefly. Phelps stresses independence on the part of the graduate student in conducting his piece of research by setting up three requirements: the student must choose his own problem, must assume full responsibility for the research, and must verify his own solution.[76] Newlon urges that effective educational research depends upon the maintenance of intimate contacts with actual classroom and administrative procedures and with the public.[77] Some excellent suggestions for beginners in research may be found in a number of the *Phi Delta Kappan*.[78] A research committee discusses briefly five stages of activity which should be clearly understood by research workers: (1) recognition of the needs or problems for study and investigation; (2) securing acquaintance with and skill in use of the techniques and materials involved in such researches; (3) publication and dissemination of material secured by study, investigation, and research; (4) interpretation of published results and their application to existing conditions; and (5) checking and verifying the utility of applications.[79] Whipple[80] treats the

[76] Shelton Phelps, "Independence in Research," *Phi Delta Kappan*, X (December, 1927), 123–5.

[77] J. H. Newlon, "A Background for Practical Research," *Phi Delta Kappan*, VIII (April, 1926), 1–6.

[78] "Research," *Phi Delta Kappan*, IX (February, 1927), 97–9.

[79] A. R. Mead, W. C. Bagley, E. I. F. Williams, and K. Anthony, "Research in Supervised Student-Teaching and Allied Problems: Report of Research Committee, 1926," *Educational Administration and Supervision*, XII (May, 1926), 346–51.

[80] G. M. Whipple, "The Improvement of Educational Research," *School and Society*, XXVI (August 27, 1927), 249–59.

improvement of research from several angles: cardinal features of scientific work, ignorance of the work of predecessors, futile problems, hasty formulation of problems, neglect of direct observation, use of the experimental technique, value of preliminary trial, use of the questionary, use of measurement, typical statistical errors, and intelligible presentation of results.

The reader interested in further information concerning research procedures will find a number of additional problems discussed in references listed in the chapter bibliography. In recent periodical literature the training of school administrators, evaluating educational writings, careless practices in educational reports, procedures of careful research workers, interpretation of research, measurement and experimentation in educational method, qualification for research, scientific ideals, curriculum-making and curriculum research, limitations of scientific method, testing and research, encouragement of research students, and training of directors of research are treated by Alexander, Good, Barr, Brooks, Henmon, Hosic, Hughes, Judd, Raup, Thorndike, Whitney, Williams, and Withers. Among the important books, monographs, and bulletins are treatments of sources of information (also see chapter i), educational subject headings, scientific method, research techniques and methods of collecting data (statistical, case study, questionnaire, experimental, survey, historical, philosophical, and job analysis), curriculum-making (also see chapter iv), measurement (also see chapter vii), reporting research, graphical representation, interpretation of data, and the work of research bureaus under the names of Alexander, Bixler, Buckingham, Chapman, Crawford, Garrett, Good, Harap, Holzinger, Kelly, Koos, McCall, Monroe, Odell, Otis, Reavis, Reeder, Rugg, Schluter, Sears, Thurstone, Trow, Voegelein, and Williams.

Pleas for Productive Scholarship, Conservation of Research Ability, and Leadership in Research.—One group of thinkers insists on greater productivity on the part of college and university teachers, although certain difficulties which confront teachers interested in research are recognized. The American Historical Association conducted a questionnaire survey in order to determine the status of research in colleges.[81] The returns from the questionnaire indicate that colleges are placing more emphasis on research due to the method of training Doctors of Philosophy, the emphasis placed on the dissertation, the place of research in the sciences and in modern industrial life, and the belief that it is a desirable method of education. Certain reasons for the lack of productivity are mentioned: the level of ability of candidates for the Ph.D. and the fact that the degree has become a commercialized teaching degree, the low social value placed on productive scholarship in the United States as compared with European countries, and a widespread belief that the research worker is not adequately rewarded materially for his efforts. The report suggests the desirability of conferring two different degrees, one indicating research ability and the other fitness for teaching. Remedies for the comparatively low level of productive scholarship are: the development of a greater interest in research, greater encouragement to Doctors of Philosophy who are capable of advanced work, more "weeding out" of candidates for the degree, more money for travel and publication, and greater recognition of scholarship in the professional world. While these comments are intended to apply particularly to the field of history, they have a very pertinent bearing on the field of education.

[81] "Productive Scholarship," *School and Society*, XXVI (October 22, 1927), 528.

Buckingham deplores the fact that many recipients of graduate degrees have become well informed along certain lines, usually in connection with the thesis investigation, and later fail to pursue further research in the same fields.[82]

> . . . A certain limited number of high-grade students obtain Ph.D. degrees every year. At the moment of receiving the degree it is not unlikely that each of them is better posted concerning some aspect of his major field than any other man in the country. Yet, after taking their degrees, only a few Ph.D. students—and these are the wisest of them—pursue the topic which of all others they may pursue with the greatest likelihood of success. Much the same may be said of those who secure their master's degree. They have majored in a certain field and very likely have written a thesis in that field. No other area is for them so important as the one to which they have just given major attention. This particular topic offers them a greater chance than any other of securing recognition among their contemporaries. Differing in degree but not in kind is the major subject of the undergraduate student. Recent studies concerning the training of teachers have shown that too many of those who have fitted themselves abundantly to teach a certain subject enter some other line of service, thus dissipating their energies and incurring both for themselves and for society an unremunerative expense.

Certain miscellaneous discussions of the desirability of research on the part of teachers in colleges and universities should be mentioned briefly. Holmes lists ways to promote research in colleges, functions of a research committee, and intellectual immoralities.[83] Jolly makes a plea for more research and relief from too many routine

[82] B. R. Buckingham, "The Greatest Waste in Education," *School and Society*, XXIV (November 27, 1926), 653–8.

"The Greatest Waste in Education," *Journal of Educational Research*, XII (November, 1925), 311–4.

V. L. Strickland, "Causes of Waste in Education," *School and Society*, XXV (January 1, 1927), 15–6.

[83] H. N. Holmes, "The Place of Research in the College," *Science*, New Series, LXVII (June 1, 1928), 539–43.

courses.[84] Weld emphasizes the value of research to the teacher, even in the smaller institutions.[85] Wykoff discusses the value of research in English and the attitude the college teacher of English should assume toward doing research.[86] Pace concludes that research is the first consideration of the professor in the graduate school, and that the professor who conducts graduate work, as well as teaches undergraduates, has a combination which requires research.[87] However, he considers teaching as the primary function of the instructor in the separate college; only when teaching skill has been demonstrated and there is assurance of continued effectiveness in teaching should research be undertaken.

Courtis suggests in detail the qualifications necessary in order to do successful research work.[88] Alexander makes an interesting comparison between the practical

[84] J. Jolly, "Universities and Research," *Nature*, CVII (August 11, 1921), 760–1.

[85] L. D. Weld, "The College Teacher and Research," *Science*, LII (July 16, 1920), 45–8.

[86] G. S. Wykoff, "Should the College Teacher of English Publish?" *School and Society*, XXII (November 28, 1925), 687–8.

[87] E. A. Pace, "Does Research Interfere with Teaching?" *The Effective College*, chapter xi. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

E. A. Pace, "Does Research Interfere with Teaching?" *Association of American Colleges Bulletin*, XIII (April, 1927), 167–74.

Also J. S. Chamberlain, "Teaching and Research," *Journal of Chemical Education*, VI (April, 1929), 710–4. Urges that neither is complete without the other.

W. P. Few, "The Graduate School and College Teaching," *Association of American Colleges Bulletin*, XV (March, 1929), 46–8.

[88] S. A. Courtis, "The Development of Ability in Research," *Studies in Education*, pp. 85–93. Yearbook Number XV of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1926.

activities of field work and the study and investigation of the higher institution as educational careers.[89] Buckingham presents an effective statement of the characteristics of a leader in educational research.[90]

> In this plea for leadership in research I have asserted that due to the educational conditions of today, there is need of quantity production in research. In order to produce the verified and scientifically defensible body of knowledge which is thus demanded, there must be leaders and followers. I have tried to give some of the qualities of leadership which seem to me to be desirable. The leader should have practical school experience. He should be able to enlist the support and win the confidence of teachers. He must be able to train workers. He must have the ability to analyze larger problems into their simpler elements and to combine selected parts of complex problems for the purpose of cooperative research. He must be a scholar in his chosen field and must be able to state problems with authority. If he is a real leader he will have what I have called "extractive power." He will be able to put his program over and to secure from people who would otherwise be indifferent the information he needs. He will be well informed as to the nature of scientific method and will know how to apply such a method to educational data. On the other hand, he will know the limitations of strictly objective treatment. He will be expert in thinking as well as in figuring. He will follow the figures where they lead, impartially and without bias or prejudice, but he will know how to interpret them and to supplement them. Finally, he will study a question long enough and hard enough to bring out something more substantial than tentative conclusions or a timid turning over of his chosen question to the educational public for further study.

Other discussions of the desirability of research in colleges and universities may be located in the chapter bibliography under the names of Baker, Barus, Carlson, Kellogg, and Metcalf.

[89] Carter Alexander, "Field versus Institutional Careers," *Phi Delta Kappan*, XI (February, 1929), 144–5; *Teachers College Record*, XXX (April, 1929), 682–5.

[90] B. R. Buckingham, "Leadership in Educational Research," *Journal of Educational Research*, XV (April, 1927), 239–45.

It should not be assumed from the foregoing discussion that all workers in higher education are unreservedly in favor of centering attention on investigation and experimentation. A different point of view from that expressed in preceding paragraphs is held by those who believe that the business of the college teacher is almost entirely that of teaching. The narrowing influence of graduate specialization and the dissertation are deplored,[91] while the importance of human interest and social contacts as essential elements of the successful college teacher's makeup are emphasized. McMurry emphasizes friendship and close personal relations with students as the most important thing in teaching.[92] Another writer advocates a greater interest in the world of human affairs on the part of graduate students and teachers.[93] Davidson compares the teacher with the physician in suggesting that the college instructor need not do research.[94] However, it should be pointed out that advances in medicine, and education, depend on the experimentation and investigation of research workers whose results are later applied by practitioners in the field. Many of these field workers have made important discoveries through an appropriate combination of investigation and practice.

The views of two groups of educational workers concerning the emphasis to be given to teaching and to research in college have been summarized. Certainly it seems unsound to suggest that a given group of investigators, possibly in the graduate school and in research

[91] W. C. Trow, "Dangers of the Doctorate," *Educational Review*, LXIX (January, 1925), 35–8.

[92] F. M. McMurry, "The Biggest Thing in Teaching," *Teachers College Record*, XXVIII (November, 1926), 215–9.

[93] N. G. Goodman, "More about Ph.D.'s," *School and Society*, XXIV (October 2, 1926), 429–30.

[94] H. F. Davidson, "The Puzzled Professor," *School and Society*, XV (May, 1922), 559–61.

bureaus, should conduct all investigation and experimentation that is carried forward, with no teaching contacts with students in the classroom and laboratory. It seems equally unsound to suggest that another group of workers, probably in the undergraduate divisions of universities, in separate colleges, and in public-school classrooms should do only teaching. The highest type of educational progress and the most effective application of the results of research cannot result from such procedures. Granted that it may be desirable to grant separate graduate degrees for proficiency in teaching, in administration, and in research, and that the first consideration of the instructor of undergraduates is effective teaching, there is still no divorce between good teaching and stimulating investigation. Adequate preparation in the graduate school for both teaching and research activities, together with an appropriate balance between classroom work and independent study in the college and university, is a solution easily suggested but more difficult of accomplishment. Adjustments in many higher institutions, particularly separate liberal-arts colleges and teachers colleges, must be made in teaching load, and facilities for research provided, if any considerable number of instructors are to do independent work of a research character. Certainly the teacher who periodically conducts an investigation in the field of his interest will bring to the classroom or laboratory an inquiring and critical attitude which should prove stimulating to students.

Progress in Educational Research

This Book Made Possible through Recent Progress in Educational Research.—In this last chapter it seems appropriate to raise a question concerning the progress which has taken place to date in educational research.

Of course, the discerning reader will answer at once that such a treatment of college and university teaching as that set forth in this book would not be possible except for the labor and thought of a large number of conscientious research workers, experimenters, and investigators. So it may be said without exaggeration that the comparatively large body of material brought together in the preceding pages of this volume is evidence of real progress in the field of educational research and higher education, especially within the past few years.

In the subsequent discussion of educational research it should be recognized that this term applies to experimentation and investigation in any field where the chief concern is educational or teaching objectives, materials of instruction, teaching or learning procedures, measurement of achievement or capacity, or the facilitation of administrative adjustments to expedite the learning and teaching process. The foregoing statement is equivalent to saying that each teacher of every school or college subject and each educational administrator should at least be interested in the results of educational experimentation and investigation and is a potential research worker.

Development of Different Techniques of Research.—It is a matter of interest to note the limited scope of the types of educational research advocated from fifteen to twenty years ago. In a discussion[95] of research in education Cubberley mentioned the fields of finance, county reorganization, and units of cost as major fields in need of investigation; Dearborn and Thorndike urged experi-

[95] E. P. Cubberley, W. F. Dearborn, Paul Monroe, and E. L. Thorndike, "Research within the Field of Education, Its Organization and Encouragement," pp. 1–54. *The School Review Monograph*, Vol. I. Chicago: Department of Education, University of Chicago, 1911.

mentation and quantitative measurement; and Monroe emphasized cooperation in research. It was at this time when education was known in many quarters as pedagogy, which was probably a transitional stage between the parent philosophy and present-day education. One writer of that day bore the title, Dean of the School of Pedagogy of New York University.[96] The historical method of research was also receiving relatively more attention than at present.[97]

The philosophical and historical methods of investigation were early in favor in education, but are not employed extensively at present. The questionnaire and survey methods of collecting data were widely adopted a little later and still serve a purpose when properly used. Today the statistical[98] and experimental methods appear to be in favor, including certain specialized forms of statistical procedure such as case study and activity analysis. Terman[99] expresses his confidence in the future of the testing movement, which is probably the most widely used form of the statistical method.

> A hundred years from now the educational historian will probably characterize the present era as the one which saw the birth and development of the testing movement. From a half-dozen points of view the introduction of standard tests of intelligence and of school achievement must be regarded as of capital importance, for these devices are already leaving their mark upon

[96] T. M. Balliet, "Undergraduate Instruction in Pedagogy," *Pedagogical Seminary*, XVII (March, 1910), 63–9.

[97] Paul Monroe, "Opportunity and Need for Research Work in the History of Education," *Pedagogical Seminary*, XVII (March, 1910), 54–62.

[98] J. C. Bay, "Tools of Research Needed in the Preparation of Dissertations for the Doctorate in Education," *School and Society*, XXV (January 8, 1927), 53–4.

[99] L. M. Terman, "The Ultimate Influence of Standard Tests," *Journal of Educational Research*, XVII (January, 1928), 57–9.

school organization and administration, instructional methods, curricular content, textbooks, and even educational ideals.

Buckingham[100] speaks of America as possessing a government originally established on the experimental basis and a people convinced of the value of the experimental method. He describes the public-school system, extending from the kindergarten through the university and professional school, as America's great experiment. His view of the experimental method is of interest:

> It is the favorite observation of certain writers and speakers that the future historians of our contemporary education will characterize the present period as an era of experimentation. Very likely those who thus wax prophetic are themselves interested in experimental education and attribute to it a significance beyond its just deserts. Whether the long backward look, with its inexorable application of the laws of perspective, will in fact see the resort to objective data as more than an episode, it is certain that the movement toward experiment in education is both suggestive and promising.

Is Education a Science?—It is only natural that educational workers frequently raise among themselves, or have called to their attention by those outside the profession, a question with respect to the status of their chosen field as a science. Courtis discusses this matter in his characteristically vigorous fashion, and points out four stages in the transition from an art to a science: (1) action and explanation based on crude, natural, common-sense observations; (2) biased observation and uncritical acceptance of assumptions; (3) a crude but true science yielding enduring knowledge, basic laws, and certain control; and (4) the golden age of science,

[100] B. R. Buckingham, "The Great Experiment," *Journal of Educational Research*, XVI (December, 1927), 375–8.

when measurement is refined to the *n*th degree, techniques perfected and standardized, the entire field mapped out, knowledge systematized, potentialities developed, control based on exact knowledge, and the yield of new truth is continuous and certain. He describes the stage of development attained by the new science of education as follows:[101]

> If now one asks, "In what stage is the science of education?" the answer must be "the second," or the stage of biased observation and uncritical acceptance of assumptions. We have measuring instruments of a sort, but no means of interpreting the results of our measurements except in terms of assumptions which have not been proved to fit the conditions. We speak of ability, capacity, nature, nurture, although none of these concepts is more than vague suggestion of obscure trends . . .
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> . . . . . .
>
> The stage through which we are passing has served a good purpose. Today, thousands of workers are trained to a scientific point of view and are ready to use the new methods of control as soon as they are discovered. What Copernicus did for astronomy, what the skeptical chemist did for alchemy, that some modern leader will yet do for education. Our critical standards have been too low. We have deceived ourselves into considering our progress to be on a higher level than it really is. The challenge of the opportunity before us is as vast as it is unperceived by the rank and file of those in education whose intent is to be scientific.

Evidences of Progress in Educational Research.—The justice of the point of view expressed by Courtis in the foregoing quotation must be admitted. However, rapid gains are being made and even where progress is slow, there is no reason for pessimism or discouragement on the part of workers in education. Buckingham has expressed in a stimulating way the progress which may result from the accumulation of even small gains in

[101] S. A. Courtis, "Education—A Pseudo-Science," *Journal of Educational Research*, XVII (February, 1928), 130–2.

educational knowledge and slight improvements in procedure.[102]

> We are familiar in mathematics with the doctrine of the summation of infinitesimals. The result is a finite magnitude whose size may be indeed very great. Each method, which through patient investigation is proved to be a little superior to the methods hitherto in operation, is one of the small quantities entering into this summation. Let us not suppose that any one of these procedures must produce a large effect in the complex learning process. Let us be prepared to accept small gains and to combine them for the purpose of producing large gains. Let us work bit by bit toward the master method. Let us play the educational game as the chess masters are now playing their game. Let us be content with an accumulation of small advantages.

It seems appropriate to list the visible evidences of progress in educational research and higher education. A logical starting point is to note the increase in numbers of those who, by virture of their training and influence, must be the leaders in research and teaching. In 1890 the number of Ph.D. degrees[103] granted was only 126; in 1920 the total was 532; in 1924 the number had increased to 1,064; and in 1926 the total reached 1,302. During the decade 1918-27, 986 Doctors' degrees in education were granted.[104] Haggerty comments on the large amount of literature on higher education which became available during the decade, 1918-28. He states that the total number of titles probably reaches two thousand, and that 1,162 studies and discussions examined in

[102] B. R. Buckingham, "The Accumulation of Minute Advantages," *Journal of Educational Research*, XVI (September, 1927), 136–8.

[103] *Statistics of Universities, Colleges and Professional Schools*, p. 5. Bureau of Education Bulletin No. 40, 1927. Washington: Bureau of Education.

[104] W. S. Monroe and Others, *Ten Years of Educational Research*, 1918–1927, p. 47. University of Illinois Bulletin, Vol. XXV, No. 51. Urbana, Illinois: University of Illinois, 1928.

summary form amount in bulk to more than fourteen million words and more than the equivalent of one hundred sizable volumes.[105]

Certain types of evidence, which were discussed in some detail in chapter i, indicate real progress in educational research and higher education:

Graduate theses.
Professional and learned societies and organizations.
Bibliographies and abstracts.
Research periodicals.
Bulletins, monographs, and studies published by teacher-training institutions.
Bulletins and reports published by state and city school systems.
School survey reports.
Yearbooks, proceedings, reports, journals, and bulletins of educational organizations.
National foundations and boards for the advancement of education.
United States Bureau of Education.
Certain offerings of commercial publishing houses.
Summaries of investigations in given fields.
Research bureaus.

As an indication of progress in educational research during the past decade a number of major studies or series of studies of interest to workers in higher education will be mentioned. The problems attacked are as follows: articulation,[106] readjustment in higher education,[107]

[105] M. E. Haggerty, "The Scholarly Study of College Education," *Journal of Educational Research*, XIX (February, 1929), 139–41.

[106] *The Articulation of the Units of American Education.* Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929. Pp. 512.

[107] W. S. Gray and Others, *Current Educational Readjustments in Higher Education.* Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929. Pp. vi + 160.

Also National Society of College Teachers of Education, a yearbook in 1930 on the quantitative movement in higher education.

parental education,[108] nature and nurture,[109] reorganization of the American educational system,[110] modern foreign languages,[111] Latin,[112] mathematics,[113] adult education,[114] reading,[115] genius,[116] educational finance,[117]

[108] *Preschool and Parental Education.* Twenty-Eighth Yearbook of the National Society for the Study of Education. Bloomington, Illinois: Public School Publishing Co., 1929. Pp. xii + 832.

[109] *Nature and Nurture: Their Influence upon Intelligence and Their Influence upon Achievement.* Twenty-Seventh Yearbook of the National Society for the Study of Education. Parts I and II. Bloomington, Illinois: Public School Publishing Co., 1928. Pp. x + 466, xiv + 398.

[110] "The Reorganization of the American Educational System," *School and Society*, XXVII (April 28, 1928), 509–15. Lists sixteen completed or projected studies which the Committee on Administrative Units of the Commonwealth Fund has sponsored and subsidized.

The Reorganization of the American Educational System Final Report of the Committee on Administrative Units of the Commonwealth Fund. University of Buffalo Studies, Vol. VII, No. 1. Buffalo, New York: University of Buffalo, 1928. Pp. 18.

[111] V. A. C. Henmon, "Some Significant Results of the Modern Foreign Language Study," *Journal of Educational Research*, XIX (February, 1929), 79–91. Includes a list of the seventeen volumes of the American and Canadian Committees, which are published by Macmillan Co. and the University of Toronto Press, Toronto, Canada.

[112] *The Classical Investigation Conducted by the Advisory Committee of the American Classical League*, Part I. Princeton, New Jersey: Princeton University Press, 1924. Pp. 306.

[113] J. W. Young, *The Reorganization of Mathematics in Secondary Education*, Part I. Boston: Houghton Mifflin Co., 1927. Pp. xvi + 182. Originally published in 1923.

[114] Six studies sponsored by the Carnegie Corporation and published by Macmillan Co. See the discussion of adult learning in chapter v.

[115] A series of studies in reading, utilizing especially an elaborate technique of photographing eye-movements in reading. *Supplementary Educational Monographs.* Chicago: Department of Education, University of Chicago.

teacher-training,[118] university teaching,[119] measurement of intelligence,[120] college education,[121] and science teaching.[122]

Numerous helpful digests of the literature in certain fields have been prepared. It will be recognized that summaries of the studies in a field usually include carefully selected bibliographies. In the chapter bibliography significant digests of experiments and investigations will be found under the names of Baldwin (educational research), Buswell (arithmetic), Curtis (science), Gates (educational psychology), Gray (reading), Lincoln (sex differences), Lyman (grammar, language, and literature), Monroe (educational research), Ogg (humanistic and social sciences), Reeves and Russell (college instruction),

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[116] L. M. Terman and Others, *Mental and Physical Traits of a Thousand Gifted Children.* Genetic Studies of Genius, Vol. I. Stanford University, California: Stanford University Press, 1925. Pp. 648.

C. M. Cox and Others, *The Early Mental Traits of Three Hundred Geniuses.* Genetic Studies of Genius, Vol. II. Stanford University, California: Stanford University Press, 1926. Pp. 842.

[117] The Educational Finance Inquiry, published in thirteen volumes by Macmillan Co.

[118] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study.* Chicago: University of Chicago Press, 1929. Pp. xx + 666.

[119] S. L. Pressey, L. C. Pressey, and Others, *Research Adventures in University Teaching.* Bloomington, Illinois: Public School Publishing Co., 1927. Pp. vi + 152.

[120] E. L. Thorndike and Others, *The Measurement of Intelligence.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. 616.

[121] *Problems of College Education.* Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928. Pp. xviii + 450.

[122] E. M. Freeman, "Procedures and Results of Efforts to Reorganize Science Instruction in the University of Minnesota," *Peabody Journal of Education,* VI (January, 1929). 204–18.

Rugg (social sciences and citizenship), Watson (religious education), and Woodring and Flemming (study). Other summaries may be found in the chapter bibliography under the names of Gambrill (supervision), Jessen (secondary education), Morrison (field research), Reavis and Butsch (secondary-school administration), Seashore (psychology of music), Tinker (reading), and Yoakam (elementary education).

Reference should be made to a number of useful bibliographies of interest to college and university teachers. In some instances the bibliography is supplemented by a brief survey of the literature. At the end of the chapter, bibliographies may be located under the names of Ashbaugh (research), Baldwin (child psychology), Bartlett (professional growth of faculty members), Good (educational theory and college teaching), Henmon and Nelson (educational psychology), Jones (educational tests), Kwalwasser (tests and measurements in music), May, Hartshorne, and Welty (personality and character tests), Monroe and Asher (a bibliography of bibliographies), Norton (the college), Odell (examinations and school marks), Pintner (intelligence tests), Theisen (educational research), Trabue (educational research), Windes and Greenleaf (secondary-education research), Wolcott (educational research), Woody (educational research), and a Bureau of Education list of references on higher education. In most of the special-subject bibliographies in the appendix will be found additional lists of references.

Cooperative Research.—One of the important current movements in education is to coordinate the research activities of various organizations and individuals. An editorial writer deplores the fact that duplication of effort has often taken place because of the lack of some central coordinating agency which would make

known the various researches completed and the problems under way in the field.[123] Another writer lists three requirements for cooperative investigation: a well-selected committee to define major issues in the field of investigation, to suggest methods of investigation, and to review findings previous to publication; a personnel to conduct the investigation sponsored by the committee, that is, to do the work; and some provision for travel expense. With these conditions met, he finds the possibilities for group research good.[124]

> Provided with these essentials, group research bears fruit. It avoids some of the weaknesses which frequently characterize individual effort. The topics of investigation are likely to be well chosen, and bias in the interpretation of results is reduced. The best methods of investigation are likely to be employed. Most important of all, a group of people with prestige are familiar with the findings of the study which, therefore, is far more likely to get over into practice. It is at this point that many individual investigations fail. Every time one prepares a comprehensive bibliography he is struck by the number of significant researches already in existence which have received little or no attention as far as modified school practice is concerned.

Chapman[125] discusses the promotion of group research by educational foundations and professional societies, and the coordination of research agencies. His summary statement concerning the coordination of research agencies is as follows:[126]

> Integration of the efforts of research bureaus and of other research workers has been brought through the establishment of a

[123] "Competitive Research," *Journal of Educational Research*, XV (January, 1927), 52–3.

[124] J. K. Norton, "Cooperative and Individual Research," *Journal of Educational Research*, XVII (March, 1928), 216–8.

[125] H. B. Chapman, *Organized Research in Education*, chapters xii, xiii. Bureau of Educational Research Monographs, Number 7. Columbus, Ohio: Ohio State University Press, 1927.

[126] *Ibid.*, p. 141.

central agency which would serve as a clearing-house. Both the National Education Association and the United States Bureau of Education have undertaken the task of coordination with some degree of success. The recent plan of cooperation between these organizations through committees of workers in special fields and the National Education Association's research service holds promise of bringing the problem more nearly to a solution. Experiments are already under way for a similar improvement of international relations in education.

Needed Research in Higher Education and Related Fields

Have Most of the Problems of Education Been Solved?— A rather common attitude on the part of the graduate student who is just beginning his work is that most of the problems of education have been solved. He is prone to point to the relatively large number of Masters' and Doctors' theses completed each year, monographs, contributions of research organizations and bureaus, studies published in research periodicals, and other scientific contributions to education as evidence that the supply of problems requiring solution is virtually exhausted. Of course such a conception of the state of affairs is far from the real truth, as subsequent paragraphs will make quite clear.

Completed Research.—Obviously, the educational worker does not wish to attack a problem which has been satisfactorily solved. On more than one occasion a research worker has spent much time in the investigation of a problem only to find that some other person has previously arrived at the same conclusion. In some cases the results were even available in print, but the investigator in question had failed to make a thorough bibliographical survey. Probably graduate students are more likely to duplicate the work of some student in another institution due to the difficulty involved in

ascertaining the problems being investigated by students in graduate schools. The reader will recall the classic examples of James and Lange who worked out a similar theory of the emotions concurrently and of Lancaster and Bell who discovered independently the monitorial system of instruction.

It may be repeated that the sources of information on higher education as listed in chapter i furnish a reasonably complete guide in making a bibliographical survey to ascertain previously investigated problems. Special attention may be directed to the fact that the United States Library of Congress has a list of American doctoral dissertations, printed each year, beginning with the year 1921. The Bureau of Educational Research of the University of Illinois has issued mimeographed bulletins containing the titles of Masters' and Doctors' theses in education, beginning with January, 1917; these bulletins have been issued at intervals of approximately two years. The digests and bibliographies listed in the foregoing section of this chapter are valuable aids in making a bibliographical survey. Mention may be made of the bulletins and bibliographies of the United States Bureau of Education which provide valuable information concerning completed research in education. To enumerate specifically other sources of information concerning completed research would be to recapitulate the material of chapter i and of the foregoing section of the present chapter, although certain general types of material may be brought to the attention of the reader: educational bibliographies and abstracts, guides to current literature, research periodicals, publications of teacher-training institutions, bulletins and reports of state and city school systems and bureaus, school survey reports, publications of professional educational organizations and societies, publications of national foundations

and boards, and the books and monographs of a selected group of publishers who make available a considerable number of research contributions.

For a number of years (beginning in 1923) the *Phi Delta Kappan*, publication of a national educational fraternity which now (1929) numbers more than ten thousand members, most of whom have done graduate work in education and who have adopted the guiding principles of research, service, and leadership, has issued a list of the completed studies of the members of Phi Delta Kappa. At this writing (1929) there are thirty-seven chapters of the organization, including the larger graduate schools and departments of education of this country. The list of studies is usually published in the August number of the journal, although it is often necessary to devote parts of succeeding issues to this list.

A number of the larger graduate schools and departments of education have available lists of Masters' and Doctors' theses which are furnished on request; special mention may be made of Teachers College, Columbia University, which publishes annually a register of its Doctors of Philosophy from 1899 to date and a bulletin of Masters' theses accepted for the year.

Research under Way.—It is possible in some instances to secure through the administrative offices of graduate schools and departments of education a list of current investigations on which students and staff are engaged. News items in periodicals provide valuable information concerning yearbook topics, school surveys, and other important investigations under way. Advance notices of teacher-training institutions, research bureaus, and educational publishers are well worth careful reading in order to keep in touch with studies well under way or nearing completion. Certain news-letters of local chapters of Phi Delta Kappa have been accustomed to print

lists of the projects on which members are engaged; *Zeta News* of the University of Chicago chapter is a case in point. Frequently in the yearbooks of professional organizations and learned societies may be found a list of the topics for projected yearbooks on which work is going forward. In February, 1926, and in March, 1927, the National Committee on Research in Secondary Education published through the United States Bureau of Education a *Bibliography of Current Research Undertakings in Secondary Education.* In March, 1928, the Bureau published a *Bibliography of Current Research Studies in Education.* It is planned to continue these series of reports.

Three specific instances may be cited to illustrate the way in which certain organizations make known to the public the studies which are being carried forward by the organization or its members: a research bureau;[127] a list of studies in the field of religious education, including a number of theses;[128] and research under way in the field of student-teaching.[129]

General Problems Suggested for Investigation.—The literature of the past few years indicates that educational workers have been active in suggesting problems which should be solved. The *Phi Delta Kappan* for October and December, 1926, includes a list of research problems proposed by members of the fraternity in response to the request that they indicate the educational problems which

[127] "Projects of the Bureau of Educational Research for 1928–29," *Educational Research Bulletin,* VII (October 17, 1928), 306–10. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

[128] "Research Projects in Religious Education," *Religious Education,* XXIII (April, 1928), 376–87.

[129] A. R. Mead, "Summary of Activities of the Research Committee of the Supervisors of Student Teaching," *Educational Administration and Supervision,* XI (May, 1925), 353–4.

seemed most important in terms of real need for solution. The problems are classified under three headings: administrative, pedagogical, and professional. Occasionally the news-letters of local chapters of Phi Delta Kappa contain valuable suggestions concerning needed investigations in education, for example, *Zeta News* for November 15, 1924, of the University of Chicago; this list was prepared by certain members of the staff of the School of Education. A number of graduate schools and departments of education have available a suggested list of problems which may offer valuable assistance to students who wish to select a thesis project for investigation. However, it must be kept in mind that such lists of needed investigations are in no sense to be interpreted as "assignments" of problems. The student who selects his problem independently of any such proposed list and comes to a faculty adviser with his technique at least tentatively worked out is considered as possessing one of the most essential characteristics of the successful graduate student and research worker. Naturally many useful and stimulating suggestions relative to possible research studies are made at one time or another in connection with graduate courses.

In succeeding paragraphs reference will be made to suggested lists of problems needing investigation in a number of the subdivisions of the field of education. Two matters of interest are the recency of publication of the suggested lists of investigations and the wide range of interests represented. On the whole, an open-minded and inquiring attitude, which should be stimulating to the graduate student and other educational workers, is suggested. It seems appropriate to enumerate problems at levels of the educational system other than higher education, since the direction and supervision of such projects usually comes from workers in the college and

university. In a number of the previously mentioned digests and bibliographies of educational literature are suggested problems in need of investigation. Before considering the more specialized problems in the various subdivisions of the field, attention should be directed to articles which mention a number of general problems[130] which have not been satisfactorily solved. Weglein suggests that investigation is needed as follows: size of elementary school buildings, size of junior high school and senior high school buildings, size of classes, length of school day and of school year, curriculum, supervision, and methods of teaching.[131]

Higher Education and Teacher Training.—Koos points to the dearth of scientific inquiry into collegiate education and emphasizes the disagreement found among college workers with regard to the aims of the liberal-arts college.[132] He suggests the desirability of investigating the following problems: the functions appropriate to the last two years of the four-year college course, the occupational destination of college graduates, differentiation of work to meet the needs of students of varying mental capacities, the economic and social composition of the students of our colleges, the extent of overlapping in high-school and college courses, the development and use of achievement tests at the college level, and methods of instruction at the college level. Kelly discusses the need for research along several lines in higher education: cost studies, student registration or enrollment, teaching load, miscellaneous statistical studies, experimental colleges, aims of higher education, learning problems, adaptation to different

[130] U. L. Light, "Muddling Through from Guess to Science," *Educational Review*, LXVIII (June, 1924), 5–9.

[131] D. E. Weglein, "Educational Problems," *Baltimore Bulletin of Education*, VII (September-October, 1928), 3–5.

[132] L. V. Koos, "Research Problems in Collegiate Education," *School and Society*, XVII (February 17, 1923), 169–74.

intelligence levels, and measurement of the results of teaching.[133]

Lee indicates problems in the training of vocational teachers which provide opportunity for research: selection of candidates for teaching, measurement of trade ability and trade testing, curriculum construction, evaluating the performance of students, and analysis of the trade teacher's job.[134] Charters and Waples include in their report of the results of the Commonwealth teacher-training study a discussion of problems for investigation.[135] Hughes outlines in detail a suggested study of the relation of training in subject matter to teaching effectiveness.[136] Freeman states a long list of problems which arise in science instruction in college.[137] An

[133] F. J. Kelly, "Needed Research in Higher Education," *Studies in Education*, pp. 74–84. Yearbook Number XV of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1926.

Also M. E. Haggerty, "Experimenting with the College Teacher's Problems," *Association of American Colleges Bulletin*, XV (March, 1929), 99–110.

[134] E. A. Lee, "Research Problems in Training Vocational Teachers," *School and Society*, XXIV (July 10, 1926), 31–7.

[135] W. W. Charters and Douglas Waples, *The Commonwealth Teacher-Training Study*. Chicago: University of Chicago Press, 1929. Pp. xx + 666.

Also B. R. Buckingham, "Research in Teacher Supply and Demand," *Educational Administration and Supervision*, XV (April, 1929), 259–68.

[136] J. M. Hughes, "Suggested Study on the Relation of Training of Teachers in Content Subject Matter to the Effectiveness of Instruction," *Journal of Educational Research*, XIX (March, 1929), 228–32.

[137] E. M. Freeman, "Suggested Program of Investigation Having in Mind the Improvement of Instruction in Science at the University of Minnesota," *Problems of College Education*, chapter xxxiv. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

interesting list of possible studies and researches in the various types of laboratory work involved in the preparation of teachers, supervisors, and school administrators has been suggested by a research committee. The list for 1925 includes forty-eight problems, some of which involve a number of smaller problems.[138] A shorter list of types of research needed in supervised student-teaching was published in 1926; this list is accompanied by a useful discussion of five stages of research activity which should be known to educational investigators.[139]

In the 1929 yearbook of the Department of Superintendence is a classified list of problems suggested for research and publication in subsequent reports:[140]

A. Problems of Articulation of Teacher-Training Institutions with Public School Units:

1. The selection of students.
2. Placement and follow-up.
3. Relation between pre-service and in-service training for teaching, administration, and supervision.
4. Certification for professional school service.
5. Curriculum studies in teacher training.
6. Training school facilities.
7. Articulation of high schools and teacher-training institutions.
8. Research service in state school systems.
9. Determination of faculty qualifications.
10. The arts college and teacher training.
11. Legislation affecting administrative control of teacher training.

[138] A. R. Mead, "List of Possible Studies and Researches in Supervised Student-Teaching," *Educational Administration and Supervision*, XI (May, 1925), 355–8.

[139] A. R. Mead and Others, "Research in Supervised Student-Teaching and Allied Problems: Report of Research Committee, 1926," *Educational Administration and Supervision*, XII (May, 1926), 346–51.

[140] *The Articulation of the Units of American Education*, chapter xxvi. Seventh Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1929.

12. Locating teacher-training agencies within the state.
13. Relation of probable tenure to the pre-service education of teachers.
14. State versus city teacher-training agencies.

B. Problems of Articulation within and among Teacher-Training Units:

1. Allocation of functions among the teacher-training agencies.
2. Optimum size of the teacher-training institution.
3. Methods of financing teacher training.
4. Methods of disbursement and accounting.
5. Determination of a usable unit cost in teacher training.
6. Social education.
7. Health service and health education.
8. Library service.
9. Physical plant and material equipment.
10. Faculty organization.
11. Transfer of credits.
12. Publications.

In the 1929 yearbook of the National Society of College Teachers of Education may be found a good summary statement of problems in higher education which require additional study:[141]

Unfortunately many important problems in higher education have not been subjected to critical analysis or experimentation, such as the fundamental differences in the learning activities of students at various levels of advancement or the length of time required for curricula of various types. With respect to the latter problem, the practice prevails of making all curricula conform to artificial standards, such as the four-year requirement for the baccalaureate degree. Although much has been done to determine student characteristics and the value of ability group-

[141] W. S. Gray and Others, *Current Educational Readjustments in Higher Education*, pp. 149–50. Yearbook Number XVII of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1929.

Also Jessie A. Charters, "Problems in Adult Education," *Educational Research Bulletin*, VIII (May 15, 1929), 207–11. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

ing, few studies have been made to determine methods by which students may be relieved from additional requirements as soon as essential qualitative standards have been attained. Furthermore, very little has been done to define such standards in either academic or professional institutions.

The curriculum studies which have been made thus far are largely summaries of current practice. There is urgent need of critical studies which seek to determine basic principles of curriculum construction and valid materials of instruction designed to serve specific cultural or vocational needs. Although several studies have been made of the merits of different teaching procedures, only an entering wedge has been made into this important field. With few exceptions, experimental studies have not been made of the results of the newer methods or techniques of teaching, such as the tutorial plan, and reading for honors. Too frequently, old methods are discarded and new ones adopted without critical studies of the weaknesses of the old or experiments to determine the merits of the new. The same criticism applies to many of the administrative changes which have been made during recent years. For example, personnel work has been hailed with great enthusiasm by many colleges. Numerous reports have been made of personnel activities. Very few studies have been made, however, to determine objectively the advantages and limitations which attach to them. The examples which have been given emphasize the fact that there is urgent need of the wider application of scientific methods in the critical study of practically every problem which higher institutions face today.

Whitney suggests two problems in need of investigation in the junior-college field: (1) to determine the place of this new educational unit in a state system of education, and (2) to establish any possible contributions which the junior college, both public and private, may make in a local system of democratic education.[142]

Kilpatrick has discussed in a striking way needed research in the philosophy of education by pointing to recent developments and debatable issues in physics,

[142] F. L. Whitney, *The Junior College in America*, p. 216. Colorado Teachers College Education Series, No. 5. Greeley, Colorado: Colorado State Teachers College, 1928.

biology, sociology and social science, psychology, and education.[143]

Needed Research in Secondary Education.—Briggs canvassed research workers in secondary education to ascertain the problems which in their opinion needed investigation; replies were received from forty-five men who had published in the field. The problems considered of greatest importance at the secondary level, arranged according to frequency of mention, were: methods, 21; organization, 19; teachers, 19; psychology, 17; tests, 16; finance, 9; prognosis, 7; the principal, 6; and supervision, 6. Briggs considers it strange that the history of secondary education has been so neglected as a research field during late years.[144]

Symonds presents a list of eighty problems in the field of measurement in secondary education grouped under seven headings:[145] characteristics of tests; new tests; characteristics of mental growth of children of high-school age; use of tests in teaching; problems relating to marks, pupil placement, and program; problems relating to the measurement of efficiency; and problems relating to prediction.

Elementary Education.—Judd emphasizes the desirability of research in elementary education along these

[143] W. H. Kilpatrick, "Needed Researches in the Philosophy of Education." An address delivered before the educational philosophy section of the National Society of College Teachers of Education at Cleveland, February 26, 1929.

[144] T. H. Briggs, "Problems in Secondary Education That Need Solution," *School Life*, XI (February, 1926), 116–8.

Also "A Request for Suggestions," *School Review*, XXXVII (May, 1929), 326–31. Outlines the problems to be studied in the national survey of secondary education, conducted by the United States Bureau of Education.

[145] P. M. Symonds, "Needed Research in the Field of Measurement in Secondary Education," *Journal of Educational Research*, XVI (September, 1927), 119–26.

lines: arithmetic, reconstruction of the first six grades, school administration, typical characteristics of pupils of different ages, social institutions to which pupils are introduced in the schools, taxation, personnel management, management of teachers, management of pupils, preparation of textbooks and other mechanical aids to instruction, and problems of classroom procedure.[146] Gray also suggests a list of problems for scientific investigation in elementary education.[147]

Classroom Supervision.—Barr discusses seven types of needs in the field of classroom supervision: (1) exact information about the thing to be improved; (2) more information about the probable effectiveness of different training programs; (3) more information about the validity, objectivity, and reliability of the items of teaching observed by supervisors; (4) experimentally determined principles of teaching; (5) more information about the improvability of teachers; (6) more information about the relative effectiveness of various improvement (supervisory) devices; and (7) more exact measures of teaching ability.[148]

[146] C. H. Judd, "Research in Elementary Education," *Journal of Educational Psychology*, XVII (April, 1926), 217–25.

[147] W. S. Gray, "Problems for Scientific Investigation in Elementary Education," *Elementary School Journal*, XXIII (May, 1923), 654–63.

Also R. L. Lyman, *Summary of Investigations Relating to Grammar, Language, and Composition.* Supplementary Educational Monographs, No. 36. Chicago: Department of Education, University of Chicago, 1929. Pp. viii + 302. Includes suggestions concerning problems which should be investigated.

[148] A. S. Barr, "Needed Research in Classroom Supervision," *Peabody Journal of Education*, V (January, 1928), 209–15.

Also S. A. Courtis, "Problems in the Appraisal of Supervision," *Educational Administration and Supervision*, XV (April, 1929), 269–78.

Scientific Method in Supervision. Second Yearbook of the National Conference of Supervisors and Directors of Instruction.

The Psychology of Learning.—Henmon calls attention to the large number of unsolved problems in pre-school learning, the general psychology of learning, and the special psychology of learning school subjects under school conditions.[149]

Needed Curriculum Research.—Briggs lists twenty-seven questions which he maintains must be answered before the problems in the field of the curriculum can be satisfactorily solved.[150] Salisbury discusses a number of interesting problems in the curriculum field and places special emphasis on that of moral growth.[151] Phelps emphasizes needed research which will utilize the various methods of investigation available in curriculum construction: philosophical study, job analysis, committee-conference curriculum-making, quantitative study, and experimental study.[152] Certain of the chapters of the 1928 yearbook of the Department of Superintendence include suggestions relating to problems which should be investigated in the secondary-school subjects.[153] A book by Professor Harap should prove useful to the investigator who wishes to conduct research in the cur-

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Edited by J. F. Hosic. New York: Teachers College, Columbia University, 1929. Pp. xii + 308.

[149] V. A. C. Henmon, "Needed Research in the Field of Learning," *Journal of Educational Research*, XI (May, 1925), 313–21.

[150] T. H. Briggs, *Curriculum Problems.* New York: Macmillan Co., 1926. Pp. xvi + 138.

[151] Ethel I. Salisbury, "Needed Research in Course of Study Making," *Journal of Educational Method*, IV (June, 1925), 410–6.

[152] Shelton Phelps, "Curriculum Construction," *Peabody Journal of Education*, V (January, 1928), 223–9.

[153] *The Development of the High-School Curriculum*, Part II. Sixth Yearbook of the Department of Superintendence. Washington: Department of Superintendence, 1928.

riculum field, especially in the reorganization of the program of studies in the public-school field.[154]

Educational Finance.—Mort indicates five problems in the field of state aid:[155] (1) the investigation of the demands on the state fiscal program of the principle that the state shall encourage progress of education in the localities; (2) the interpretation of a satisfactory minimum educational offering in terms of the unit cost it involves; (3) the development of an index for measuring the burden involved in transporting pupils; (4) the investigation of the effect which the cost of living should have on a true measure of educational need; and (5) the investigation of the part to be played in an equalization program by capital outlay.

Alexander asks eight important questions pertinent to the field of educational finance:[156]

1. What are the available materials in a given unit as a state or the city school systems of a state and to what important uses may such materials be put?
2. Just what practical and reasonably attainable changes are needed in records, reports, methods of reporting, time of making the budget, and the like, of a given unit as a state or the city systems of a state, to make the fiscal data thoroughly useful and why?
3. What are the needed new techniques for securing valuable results from data already available?
4. What prediction techniques are needed?
5. How do certain educational fiscal policies really work?
6. What can a given fiscal area afford to spend for schools, considering its resources and its other civic needs?

[154] Henry Harap, *The Technique of Curriculum Making.* New York: Macmillan Co., 1928. Pp. xii + 316.

[155] P. R. Mort, "Needed Research in the Field of State Aid," *Teachers College Record,* XXVII (April, 1926), 707–12.

[156] Carter Alexander, "Opportunities for Research in Educational Finance," *Educational Administration and Supervision,* IX (April, 1923), 209–22.

7. What are the possible and practical economies?
8. How can adequate funds for education be raised?

Religious and Character Education.—Even in the relatively new field of religious and character education, which has depended largely on subjective methods of procedure in the past, suggestions concerning research problems are available. Watson calls attention to needed investigations in the psychology of character,[157] and at another time lists 140 pertinent problems for experimentation in the field of religious education.[158] Four writers discuss possible areas of experimentation in religious education: the curriculum, the local church, teaching methods in the week-day school of religion, and religious education in the family.[159]

Miscellaneous Suggestions Concerning Problems for Investigation.—Pulliam emphasizes the need for information concerning standard necessities in supplies, standard janitors' supplies, standards of quantity, cost of production, standard list of supplies, and lists of equipment.[160] Other sources of information relating to miscellaneous problems in need of investigation are as follows: miscellaneous problems[161] with a rough plan of attack suggested, school publicity,[162] business management

[157] G. B. Watson, "Needed Investigations in the Psychology of Character," *Religious Education*, XXIII (January, 1928), 66–72.

[158] G. B. Watson, *Experimentation and Measurement in Religious Education*. New York: Association Press, 1927. Pp. xii + 296.

[159] G. H. Betts, N. L. Tibbetts, Blanche Carrier, and Jessie A. Charters, "Four Areas of Experimentation," *Religious Education*, XXIII (March, 1928), 229–39.

[160] Roscoe Pulliam, "Wanted: Some Studies of School Buying," *American School Board Journal*, LXXVII (November, 1928), 38.

[161] W. A. McCall, *How to Experiment in Education*, chapter x. New York: Macmillan Co., 1923.

[162] Carter Alexander, "Research in Educational Publicity," *Teachers College Record*, XXIX (March, 1928), 479–87.

of public schools,[163] sociological problems,[164] comparative education,[165] and foreign language.[166]

Concluding Statement.—In preceding chapters the writer has attempted to digest, organize, and interpret in an impartial manner the educational literature of the decade in higher education. Experiments, investigations, analyses, descriptions of current practice, and authoritative discussions dealing with the present status of college teachers and students, objectives and standards, the curriculum, the psychology of learning, classroom procedures and provision for individual differences, and measurement and guidance have been canvassed. Numerous references dealing with special method, the curriculum, and problems in the subject-matter fields of art, business and commercial education, foreign languages, home economics, industrial and manual arts, mathematics, music, physical and health education, religious and character education, science, and social studies, as well as a bibliography on miscellaneous administrative and teaching problems, will be found in the Appendix.

College teachers and administrators and students in courses which deal with problems of higher education are mature individuals who may use this book as a survey or outline of the work done in the field and pursue special interests by reading and evaluating appropriate material

[163] H. P. Smith, "Research in the Business Management of Public Schools—Progress and Problems," *American School Board Journal*, LXXVI (March, 1928), 53–4; LXXVI (April, 1928), 45, 129–30.

[164] Hugh Carter, "Research Interests of American Sociologists," *Social Forces*, VI (December, 1927), 209–12.

[165] J. F. Abel, "Lessons in Education from Foreign Experience Not Fully Utilized," *School Life*, XIV (March, 1929), 128–9.

[166] Algernon Coleman, "What the Modern Language Teacher Must Do for the Modern Foreign Language Study," *Modern Language Journal*, X (November, 1925), 65–73.

in its original setting. The worker who has acquired an adequate background through such reading will be reasonably well prepared to attack unsolved problems in the field of higher education. In chapter i sources of information on problems of higher education were listed in detail. In foregoing parts of the present chapter information concerning completed research, studies under way, and needed investigation has been given. Even the first-year graduate student or beginner in research may select one of these unsolved problems and work toward its solution with the assurance that each method, procedure, or principle, which through patient investigation is proved superior to practices formerly in operation, is one of the small quantities entering into the sum total of educational progress. As has been pointed out,[167] small gains may be combined to produce large gains and to progress gradually toward the master method.

Supplementary References

Abbot, L. F. "What is the Matter with Our Colleges?" *Outlook*, CXXXV (September 5, 1923), 12–4.

Abel, J. F. "Lessons in Education from Foreign Experience Not Fully Utilized," *School Life*, XIV (March, 1929), 128–9. Lists fifteen problems in comparative education which need investigation and study.

Alexander, Carter. "How to Equip the School Administrator with Methods of Locating Data Which Will Carry Over When He Is on the Job," *Teachers College Record*, XXVIII (May, 1927), 890–9.

Alexander, Carter, and Others. *Educational Research.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. vi + 42.

Allen, Wm. H. *Self-Surveys by Colleges and Universities.* Yonkers-on-Hudson, New York: World Book Co., 1917.

[167] B. R. Buckingham, "The Accumulation of Minute Advantages," *Journal of Educational Research*, XVI (September, 1927), 136–8.

Chapter ii describes the procedure for a cooperative college survey.

Ashbaugh, E. J. "A Bibliography of Research Articles Published in 1924," *Journal of Educational Research*, XI (May, 1925), 368–79.

Baker, H. "University Teaching and Research," *Journal of Education*, LV (January, 1923), 13–4.

Baldwin, B. T. "Child Psychology: A Review of the Literature, January 1, 1923, to March 31, 1928," *Psychological Bulletin*, XXV (November, 1928), 629–97.
Includes a bibliography of 539 references.

Baldwin, B. T. *Educational Research.* Bureau of Education Bulletin No. 42, 1923. Washington: Bureau of Education. Pp. 76.

Bamberger, Florence E. "A Survey of Observable, Improvable Factors Which Evidence Skill in Teaching," *Elementary School Journal*, XXVIII (November, 1927), 181–5.

Barr, A. S. "The Experimental Study of Teaching," *Journal of Educational Research*, XIX (April, 1929), 289–90.
Points out the need for emphasis on and experimentation with principles of teaching rather than devices and tricks of teaching.

Barr, A. S. "Research," *Journal of Educational Research*, XIX (January, 1929), 56–7.
Lists practices of careful research workers that need wider application.

Barrows, D. P. "State Provision for Junior Colleges," *Twentieth Annual Proceedings of the National Association of State Universities*, pp. 57–77, 1922.

Bartlett, L. W. "Bibliography on the Professional Growth of Faculty Members," *Association of American Colleges Bulletin*, XII (November, 1926), 275–300.

Barus, C. "Research and Teaching," *Science*, LVII (April 13, 1923), 445–6.

Beck, F. T. "How the College May Better Prepare Its Graduates for High-School Teaching," *School and Society*, XXVII (April 14, 1928), 552–4.
Discusses qualifications of teachers in training schools, the professional curriculum in the school of education, subject-matter needs of college graduates, systems of examination, and the urgent need for a better plan of supervised student teaching.

Bennett, L. J. "The Department of Education in the Liberal Arts College," *School and Society*, XXIX (January 19, 1929), 69–75.
Discusses methods of adjustment between the professional and cultural points of view.

Benson, C. E. "Weak Spot in Teacher-Training," *Educational Administration and Supervision*, X (March, 1924), 169–72.

Birkelo, C. P. "What are the Responsibilities of the Normal School Teacher?" *Educational Administration and Supervision*, XII (May, 1926), 289–97.

Bixler, H. H. *Check Lists for Educational Research.* New York: Bureau of Publications, Teachers College, Columbia University, 1928. Pp. xiv + 118.
Numbered lists of research principles or procedures gathered from the literature of educational research.

Blackwell, C. P., and Crandall, W. G. "Professional Improvement of College Teachers," *Educational Administration and Supervision*, VII (October, 1921), 388–400.
From a canvass of ninety-two institutions twelve methods of professional improvement were discovered, among which are: graduate study, educational courses of study and seminars, reports and discussions, research and investigational work, and scientific and professional meetings.

Bliss, W. B. "How Much Mental Ability Does a Teacher Need?" *Journal of Educational Research*, VI (June, 1922), 33–41.

Bohannan, C. D. "Improvement of College Instruction," *Phi Delta Kappan*, X (April, 1928), 161–73.
A questionnaire study of what forty-six Land-Grant Colleges are doing to improve college instruction.

Bonser, F. G. "The Training of Teachers for the New Education," *Progressive Education*, VI (April–May–June, 1929), 111–21.

Breed, F. S. "Factors Contributing to Success in College Teaching," *Journal of Educational Research*, XVI (November, 1927), 247–53.

Breed, F. S. "A Guide for College Teaching," *School and Society*, XXIV (July 17, 1926), 82–7.
Analysis of college teaching with outline for use as a means of self-appraisal.

Brooks, B. T. "The Interpretation of Research," *Scientific Monthly*, XXVII (November, 1928), 410–5.

Emphasizes the desirability of accurate, intelligible translation and interpretation of scientific discoveries, so that applications to daily life are evident.

Brown, F. J. "An Experimental Plan for Teacher Training," *Ninth Yearbook of the Department of Secondary School Principals*, pp. 200–6. Washington: National Education Association, 1925.

Brown, J. C. *The Development, Present Status, and Trends of the Curricula of Teachers Colleges, with Especial Reference to the Third and Fourth Years*, (in preparation).
Subsidized and sponsored by the Committee on Administrative Units of the Commonwealth Fund.

Buckingham, B. R. *Research for Teachers.* New York: Silver, Burdett and Co., 1926. Pp. viii + 386.

Buswell, G. T., and Judd, C. H. *Summary of Educational Investigations Relating to Arithmetic.* Supplementary Educational Monographs, No. 27. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 212.
For additional references see the annual supplements in the *Elementary School Journal.*

Carlson, A. F. "Research as a Method of Education," *Science*, LXV (February 4, 1927), 125–8.

Carpenter, W. W. "Certain Factors That Have Caused the Serious Consideration of the Public Junior College," *Kadelpian Review*, VIII (November, 1928), 23–34.
Reviews certain literature in the field.

Chambers, M. M. "The Junior College and the 'Scholarly Amateur,'" *School and Society*, XXVIII (October 27, 1928), 519–21.
Shows the importance of the junior college in general education and suggests that the low-grade four-year institution will probably have to discontinue its existence, become a junior college, or else meet accrediting standards.

Chapman, H B. *Organized Research in Education with Special Reference to the Bureau of Educational Research.* Bureau of Educational Research Monographs, No. 7. Columbus, Ohio: Ohio State University Press, 1927. Pp. x + 222.

Charters, W. W. *Stephens College Studies*, (in preparation).
Subsidized and sponsored by the Committee on Administrative Units of the Commonwealth Fund.

Charters, W. W. "The Improvement of College Teaching," *School and Society*, XIII (April 23, 1921), 494–7.

Mentions the difficulties involved in offering a course dealing with college teaching and outlines the essentials of such a course.

Coats, Marion. "A New Type of Junior College," *Journal of the National Education Association*, XVIII (January, 1929), 5–6.
Describes the Sarah Lawrence College of Bronxville, New York.

Cobb, Stanwood. *The New Leaven.* New York: John Day Co., 1928. Pp. 340.
Points out some weaknesses of the college and college entrance examinations; sees real possibilities in the junior college.

Coffin, J. H. "The Whittier Idea," *Progressive Education*, IV (October-November-December, 1927), 300–5.
Emphasis on the liberal-arts idea.

Cooper, W. J. "The Junior-College Movement in California," *School Review*, XXXVI (June, 1928), 409–22.
Traces the development of the movement over a period of twenty-one years.

Crawford, C. C. *The Technique of Research in Education.* Los Angeles, California: University of Southern California, 1928. Pp. 320.

Culp, V. H. "The Ph.D. Fetish," *Journal of Education*, CVIII (September 10, 1928), 182–4.
An arraignment of certain practices in graduate work.

Curtis, F. D. *A Digest of Investigations in the Teaching of Science in the Elementary and Secondary Schools.* Philadelphia: P. Blakison's Son and Co., 1926. Pp. x + 342.
Presents digests of seventy studies with a brief statement of the problems involved, the technique employed by the investigator, and a summary of the findings.

Davis, H. I. "Are Professors Teachers?" *School and Society*, XXIII (April 3, 1926), 432–4.

Douglass, H. R., and Others. *Controlled Experimentation in the Study of Methods of College Teaching.* University of Oregon Education Series, Vol. I, No. 7. Eugene, Oregon: University of Oregon Press, 1929. Pp. 265–316.
Reports five investigations: (1) the value of extra-quiz sections in the teaching of English history, (2) the relative effectiveness of the problem and lecture methods in principles of economics, (3) project teaching in educational psychology, (4) independent study, and (5) lecture-recitation versus the supervised-individual method in unified college mathematics.

Dunlap, Knight. "The Outlook for Psychology," *Science*, LXIX (February 22, 1929), 201–7.
Discusses the laboratory method and research in psychology.

Eckhardt, C. C. "Faculty Self-Survey and the Improvement of College Teaching," *School and Society*, XXVII (March 17, 1928), 336–8.
Includes an outline of questions for use in an individual self-survey.

Edmonson, J. B. "Annual Meeting of the North Central Association of Colleges and Secondary Schools," *School Review*, XXXVII (May, 1929), 321–6.

Eells, W. C., and Davis, H. M. "The Junior-College Transfer in University Athletics," *School Review*, XXXVII (May, 1929), 371–6.

Evenden, E. S. "Cooperation of Teachers of Academic Subjects with the Training School," *Educational Administration and Supervision*, XI (May, 1925), 307–19.

Evenden, E. S. "The Improvement of College Teaching," *Teachers College Record*, XXIX (April, 1928), 587–96.
Discusses improvement through administrative and supervisory adjustments and through adjustments by individual teachers.

Ewing, W. F. "The Present Status of Public Junior Colleges," *California Quarterly of Secondary Education*, I (1925), 47–50.

Filler, M. G. "Observations of a Teacher of College Freshmen," *Eleventh Annual Schoolmen's Week Proceedings*, 310–5. Philadelphia: University of Pennsylvania, 1924.

Fisher, G. M. "Standards of Research in Morals and Religion," *Religious Education*, XXIII (March, 1928), 186–90.

Ford, G. S. "Selection and Improvement of the College Faculty," *Problems of College Education*, chapter viii. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Foster, F. M. "The Training of College Teachers," *School and Society*, XII (November 20, 1920), 475–8.
A suggested program of study for one who desires to become a college teacher and who has no particular desire for research work.

Foster, O. I., and Others. *Some Phases of the Junior College Movement.* Bulletin of the School of Education, Indiana University, Vol. IV, No. 1. Bloomington, Indiana: Bureau of Cooperative Research, Indiana University, 1927. Pp. 126.

Reports the results of a survey which involved a questionnaire study of standards, legal status, finance, and curriculum.

Frank, Glenn. "The Experimental College of the University of Wisconsin," *Wisconsin Journal of Education*, LIX (April, 1927), 338–40.

Fries, C. C. "The Training of Teachers: The Problem of Professionalized Subject-Matter," *Educational Administration and Supervision*, XIII (March, 1927), 178–91; also *Education*, XLVIII (November, 1927), 145–62.

Fuller, W. D. "An Investigation of Some Problems of Administration Confronting the Public Junior Colleges of California." Unpublished Doctor's thesis, University of Washington, 1927.

Gambrill, Bessie L. "A Critical Review of Researches in Supervision," *Educational Administration and Supervision*, XV (April, 1929), 279–89.

Garrett, H. E. *Statistics in Psychology and Education.* New York: Longmans, Green and Co., 1926. Pp. xiv + 318.

Gates, A. I. "Recent Advances in Educational Psychology," *School and Society*, XXIX (January 5, 1929), 1–8.
Discusses advances under the following captions: educational objectives, teaching and learning, results of present educational systems, educational diagnosis and measurement, educational guidance and prognosis, educational diagnosis and remedial work, trends in methods of research, trends in systematic accounts of educational psychology, and use of the school as a laboratory.

Godfrey, H. "Cooperation between Industry and the Colleges," *Educational Review*, LX (June, 1920), 42–51.

Good, C. V. "An Analysis of Studies in Educational Theory," *Educational Administration and Supervision*, XV (1929), (forthcoming).
Includes 417 references.

Good, C. V. "Bibliography on College Teaching with Special Emphasis on Methods of Teaching," *Studies in Education*, pp. 66–95. Yearbook XVI of the National Society of College Teachers of Education. Chicago: University of Chicago Press, 1928.

Good, C. V. "Careless Practices in Educational Writings," *School and Society*, XXIII (May 29, 1926), 684–6.

Good, C. V. "Educational Writings, Editing and Errors," *School and Society*, XXVII (February 4, 1928), 146–50.

Good, C. V. "Graduate Study and Research in Education," *High School Teacher*, V (May, 1929), 148–51, 164.

Good, C. V. *How to Do Research in Education.* Baltimore: Warwick and York, 1928. Pp. 298.

Good, C. V. "The Art of Book Reviewing," *School and Society*, XXIV (July 31, 1926), 142–3.

Good, C. V. "The Literature on College Teaching," *School and Society*, XXVII (April 21, 1928), 481–7.

Goode, J. P. "The Doctor of Philosophy and His Business," *Science*, LXIX (March 22, 1929), 318–21.
Discusses the training of the Ph.D. and the subsequent research activities of the Ph.D.

Gray, W. S. *Summary of Investigations Relating to Reading.* Supplementary Educational Monographs, No. 28. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 276.
Includes references to 436 studies made in England or America; see the *Elementary School Journal* for February, March, April, May, 1926, for references to 73 additional studies; for February and March, 1927, for references to 56 additional studies; for February, March, and April, 1928, for references to 113 studies; for February and March, 1929, for references to 101 studies.

Gray, W. S. "The Use of a Time-Record Blank in the Standardization and Supervision of Student-Teaching Courses," *Educational Administration and Supervision*, VII (March, 1921), 121–32.
Includes a reproduction of the blank with directions for use and data on how student teachers use their time.

Haertter, L. D., and Smith, Dora V. "An Investigation into the Methods of Student Teaching in 32 Colleges and Universities," *Educational Administration and Supervision*, XII (December, 1926), 577–95.
Presents data on credit allowed for student-teaching, length of course, activities of student-teacher, conferences, rating, professional courses, observation, supervision, marking, etc.

Haggerty, M. E. "Faculty Qualifications for Junior Colleges," *North Central Association Quarterly*, III (December, 1928), 305–9.
Lists the standards set by the forty-eight states.

Haggerty, M. E. "The Professional Training of College Teachers," *North Central Association Quarterly*, II (June, 1927), 108–23.

Haggerty, M. E. "The Improvement of College Instruction," *School and Society*, XXVII (January 14, 1928), 25–37.

Haggerty, M. E. "The Scientific Improvement of College Instruction," *Bulletin of the American Association of University Professors*, XIV (April, 1928), 281–4.

Harap, Henry. *The Technique of Curriculum Making.* New York: Macmillan Co., 1928. Pp. xii + 316.

Henmon, V. A. C. "Measurement and Experimentation in Educational Methods," *Proceedings of the Eighth Annual Session of the Ohio State Educational Conference*, pp. 571–81. Ohio State University Bulletin, Vol. XXXIII, No. 3, 1928. Columbus, Ohio: Ohio State University; also *Journal of Educational Research*, XVIII (October, 1928), 185–94.
A critical discussion of the difficulties involved and problems presented in an experimental attack on problems of method; suggests the creation of research institutes in each of the school subjects for the direction of experimentation and the dissemination of information.

Henmon, V. A. C., and Nelson, M. J. "Educational Psychology," *Psychological Bulletin*, XXV (July, 1928), 377–88.
Includes 213 references which appeared between April, 1927, and April, 1928.

Hill, C. M. "The College President and the Improvement of College Teaching," *Educational Administration and Supervision*, XV (March, 1929), 212–22.
Based on a questionnaire study of ninety-nine liberal-arts colleges and universities, which shows to what extend and in what way the institutions represented are attacking the problem of the improvement of instruction.

Hills, E. C. "The Student's Complaint," *School and Society*, XVI (December 30, 1922), 747–9.
A discussion of the clamor of student bodies for abler and more inspiring professors.

Holmes, H. N. "The Research Instructor for Colleges," *Journal of Chemical Education*, V (March, 1928), 337.

Holzinger, K. J. *Statistical Methods for Students in Education.* Boston: Ginn and Co., 1928. Pp. viii + 372.

Hosic, J. F. "Qualification for Research," *Journal of Educational Method*, VIII (February, 1929), 247–8.

Emphasizes the need for mastery of both the subject-matter field and the technique of research involved in an investigation.

Hughes, J. M. "An Analysis of Instructional Handicaps within a University," *Journal of Educational Method*, VIII (March, 1929), 310–3.

Includes a study of the personnel of class sections, instructional interests, physical equipment, and supervision.

Hughes, J. M. "The Educational Worker and Scientific Ideals," *American School Board Journal*, LXXVIII (March, 1929), 60, 142.

Lists nine characteristics or ideals of the scientific worker.

Jackson, Dunham. "The Relation of Statistics to Modern Mathematical Research," *Science*, LXIX (January 18, 1929), 49–54.

Jaqua, E. J. "The Claremont Colleges Plan," *Progressive Education*, IV (October-November-December, 1927), 295–9.

The plan involves a group of small colleges.

Jessen, C. A. "National Committee on Research in Secondary Education," *School Life*, XIV (April, 1929), 151.

Lists the studies and publications sponsored by the Committee.

Jewett, F. B., Whitney, W. R., and Redman, L. V. "The Organization of Scientific Research in Industry," *Science*, LXIX (March 22, 1929), 309–11.

Discusses the finding and encouragement of competent men for research.

Jones, V. "Educational Tests," *Psychological Bulletin*, XXV (July, 1928), 407–21.

A review of eighty-two titles on the literature of testing.

Jones, W. B. "Self-Survey in Urban Universities," *Educational Record*, X (January, 1929), 51–8.

Describes the policies and work of the Division of Research in Higher Education at the University of Pittsburgh.

Judd, C. H. "The Place of Research in a Program of Curriculum Development," *Journal of Educational Research*, XVII (May, 1928), 313–23.

Reviews current techniques in curriculum research and suggests modifications, refinements, and needed emphasis in curriculum investigation.

Judd, C. H. "The Production of Good College Teaching," *Association of American Colleges Bulletin*, XV (March, 1929), 90–8.

Discusses the lecture method and research.

Kelley, T. L. *Statistical Method.* New York: Macmillan Co., 1923. Pp. xii + 390.

Kellogg, V. "University and Research," *Science*, LIV (July 8, 1921), 19–23.

Kelly, F. J. "Scientific Method in College Administration and College Teaching," *School and Society*, XX (September 27, 1924), 390–6.
Discusses the evaluation of the results of instruction, rating of college teachers, and budget-making.

Kelly, F. J. *The American Arts College.* New York: Macmillan Co., 1925. Pp. xiv + 198.
A survey of liberal-arts colleges, including treatments of aims, curriculums, educational guidance, methods of teaching, measuring achievement, and extra-curricular life.

Kelly, F. J. "The Training of College Teachers," *Journal of Educational Research*, XVI (December, 1927), 332–41.

Kelly, R. L. "The Colleges as Educational Laboratories," *Association of American Colleges Bulletin*, XIII (November, 1927), 322–47.
Refers to the work being done in a number of institutions—Duke, Occidental, Scripps, Western, Agnes Scott, Colorado, St. Stephens, Davidson, Whitman, Williams, Michigan, Northwestern, Earlham, Cornell, Randolph-Macon, California, Emory, Rollins, Pennsylvania, Wake Forest, St. Mary's, St. Olaf, Smith, Wabash, Wheaton, Southern California, Connecticut Wesleyan, Hastings, Illinois, Haverford, Trinity, Columbia, Converse, Elon, Hamline, Keuka, Milwaukee-Downer, Ripon, St. Catherine, Syracuse, Kentucky, Washington, Wellesley, Whittier, etc.

Kelly, R. L. "Great Teachers and Methods of Developing Them," *Association of American Colleges Bulletin*, XV (March, 1929), 49–67.
Based on a canvass of some two hundred colleges.

Kemp, W. W. "The Junior-College Movement in California," *Eighth Yearbook of the Department of Secondary School Principals*, pp. 82–94. Washington: National Education Association, 1924.

Klein, A. J. "Administrative Procedures for Improving College Teaching," *Problems of College Education*, chapter ix. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Knight, F. B. *Qualities Related to Success in Teaching.* Teachers College Contributions to Education, No. 120. New York: Teachers College, Columbia University, 1922. Pp. 68.

Koos, L. V. *The Junior College.* Research Publications of the University of Minnesota, Education Series, No. 5. Minneapolis: University of Minnesota, 1924. 2 Vols.

Koos, L. V. *The Questionnaire in Education:* A Critique and Manual. New York: Macmillan Co., 1928. Pp. viii + 178.

Koos, L. V. "The Trend of Reorganization in Higher Education as Affecting the Junior College," *Problems of College Education,* chapter xi. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota, 1928.

Kwalwasser, J. "Tests and Measurements in Music," *Psychological Bulletin,* XXV (May, 1928), 284–301.
Includes twenty-eight references.

Leonard, R. J., Evenden, E. S., and O'Rear, F. B. *United Lutheran Church in America Survey of Higher Education.* New York: Bureau of Publications, Teachers College, Columbia University, 1929. 3 Vols.

Lincoln, E. A. *Sex Differences in the Growth of American School Children.* Baltimore: Warwick and York, 1927. Pp. xii + 190.

Lyman, R. L. *Summary of Investigations Relating to Grammar, Language, and Composition.* Supplementary Educational Monographs, No. 36. Chicago: Department of Education, University of Chicago, 1929. Pp. viii + 302.

McCall, W. A. *How to Experiment in Education.* New York: Macmillan Co., 1923. Pp. xvi + 282.

McCall, W. A. *How to Measure in Education.* New York: Macmillan Co., 1922. Pp. xiv + 416.

McConn, Max. *College or Kindergarten?* New York: New Republic, Inc., 1928. Pp. 276.
Suggests the removal of professional courses from the liberal-arts college, a Scholar's College for those genuinely interested in intellectual culture, and a Gentleman's College for those who look upon college as merely a safe employment of time between the end of high school and the beginning of adult responsibility.

McDowell, F. M. *The Junior College:* A Study of Its Origin, Development, and Status in the United States. Bureau of Educational Bulletin No. 35, 1919. Washington: Bureau of Education. Pp. 140.

Mangold, G. B. "Some Recent Developments in Parental Education," *Sociology and Social Research*, XIII (March-April, 1929), 325–37.

Massey, Vincent. "The Undergraduate College and Higher Education in the United States, Canada and Great Britain," *Association of American Colleges Bulletin*, XV (March, 1929), 20–30.

May, M. A., Hartshorne, Hugh, and Welty, Ruth E. "Personality and Character Tests," *Psychological Bulletin*, XXV (July, 1928), 422–43.
Includes 146 references.

Mead, A. R. "Cooperation of Academic and Professional Departments in Teacher Preparation at Ohio Wesleyan University," *Educational Administration and Supervision*, XI (May, 1925), 333–7.

Mead, A. R. "Suggested Improvements for Preparing Secondary Teachers in Ohio," *Educational Administration and Supervision*, IX (September, 1923), 325–38.

Meiklejohn, Alexander. "What Next in Progressive Education?" *Progressive Education*, VI (April–May–June, 1929), 99–110.

Mersereau, E. B. "A Study of the Virtues and Faults of Practice Teachers," *Educational Administration and Supervision*, XIII (October, 1927), 467–75.

Metcalf, M. M. "Research in Colleges," *Association of American Colleges Bulletin*, XIV (March, 1928), 119–27.

Miller, I. E. "Some Innovations that Make for Efficiency in Teacher-Training," *Educational Administration and Supervision*, VII (April, 1921), 237.

Monroe, W. S., and Asher, Ollie. *A Bibliography of Bibliographies.* University of Illinois Bulletin, Vol. XXIV, No. 36. Urbana, Illinois: University of Illinois, 1927. Pp. 60.

Monroe, W. S., and Engelhart, M. D. *The Techniques of Educational Research.* University of Illinois Bulletin, Vol. XXV, No. 19. Urbana, Illinois: University of Illinois, 1928. Pp. 84.

Monroe, W. S., and Johnston, Nell B. *Reporting Educational Research.* University of Illinois Bulletin, Vol. XXII, No. 38. Urbana, Illinois: University of Illinois, 1925. Pp. 64. (Out of print.)

Monroe, W. S., and Others. *Ten Years of Educational Research*, 1918–1927. University of Illinois Bulletin, Vol. XXV, No. 51. Urbana, Illinois: University of Illinois, 1928. Pp. 368.

Includes a survey of the literature of the period, special treatments of research in the curriculum and measurement, a bibliography of the research of the ten-year period, and a list of the Doctors' degrees in education granted by the various institutions of this country.

Morris, Elizabeth H. *Personal Traits and Success in Teaching.* Teachers College Contributions to Education, No. 342. New York: Teachers College, Columbia University, 1929. Pp. 76.

Morrison, J. C. "Research in the Field," *Phi Delta Kappan*, XI (April, 1929), 161–6.
A review of current field research in education.

Nelson, Amalie K. "Parental Education," *Educational Research Bulletin*, VIII (May 15, 1929), 211–5. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

Norton, J. K. *The College of Tomorrow: Its Relation to the High School and to Life.* Washington: National Education Association, 1928.
One hundred annotated references.

Nutt, H. W. "A Fundamental Weakness in Teacher-Training Courses," *Educational Administration and Supervision*, XII (March, 1926), 200–3.

OBrien, F. P. "Conditions Which Justify Establishing a Junior College," *School Review*, XXXVI (February, 1928), 128–37. Considers existing need, cost involved, timeliness of the proposal to establish a junior college, and educational outlook.

OBrien, F. P. *College Standards and a Public Junior College.* Studies in Education, Vol. I, No. 4. Lawrence, Kansas: University of Kansas, 1926. Pp. 24.

Odell, C. W. *A Selected Annotated Bibliography Dealing with Examinations and School Marks.* University of Illinois Bulletin, Vol. XXVI, No. 20. Urbana, Illinois: University of Illinois, 1929. Pp. 42.
Includes three hundred references.

Odell, C. W. *Educational Statistics.* New York: Century Co., 1925. Pp. xviii + 334.

Odell, C. W. *The Interpretation of the Probable Error and the Coefficient of Correlation.* University of Illinois Bulletin, Vol. XXIII, No. 52. Urbana, Illinois: University of Illinois, 1925. Pp. 50.

Ogg, F. A. *Research in the Humanistic and Social Sciences.* New York: Century Co., 1928. Pp. 454.

A report of a survey conducted for the American Council of Learned Societies; covers the research work done by learned societies, colleges, universities, bureaus, foundations, business houses, and individuals.

Osborne, L. G. "The Work of the Director of Research of the East St. Louis, Illinois, High School," *High School Teacher*, V (March, 1929), 86–8.
Lists work completed, projected activities, and work under way.

Otis, A. S. *Statistical Method in Educational Measurement*. Yonkers-on-Hudson, New York: World Book Co., 1925. Pp. xii + 338.

Pace, E. A. "The Training of the College Teacher," *Educational Record*, VII (July, 1926), 131–42.
Begins with a brief historical discussion of the problem of training the college teacher; points out that the habit of relying on the graduate school for the supply of teachers is a further explanation of the slowness with which the colleges have approached the problem of training.

Patterson, H. "Can College Teaching be Improved?" *Educational Review*, LXIV (June, 1922), 68–73.
A discussion of the three most important qualities of college teachers—scholarship, personality, and technique.

Peik, W. E. "The Analysis and Evaluation of College and University Courses in Education," *Journal of Educational Research*, XVIII (December, 1928), 345–55.
An analysis of the University of Minnesota secondary-school teacher-training program which includes analysis of prescribed courses into units of instruction, reactions of alumni to training received, reactions of teachers with respect to units of courses, etc.

Pintner, R. "Intelligence Tests," *Psychological Bulletin*, XXV (July, 1928), 389–406.
Includes 152 references.

Proctor, W. M. *The Junior College: Its Organization and Administration*. Stanford University, California: Stanford University Press, 1927. Pp. x + 226.
Prepared by eleven men actively interested in the junior college; includes discussions of aims, organization, faculty, curriculum, administration, student activities, cooperative part-time work, etc.

Raup, R. B. "Limitations of the Scientific Method," *Teachers College Record*, XXX (December, 1928), 212–26.
Emphasizes the need for better thinking, and the place of human desires and preferences in determining beliefs and decisions.

Reavis, W. C. *Pupil Adjustment in Junior and Senior High Schools.* Boston: D. C. Heath and Co., 1926. Pp. xviii + 348.

Reavis, W. C., and Butsch, R. L. C. *Abstracts of Unpublished Masters' Theses in the Field of Secondary-School Administration.* Bulletin Number 24 of the Department of Secondary-School Principals of the National Education Association. Cicero, Illinois: H. V. Church, 1929. Pp. 202.

Reeder, W. G. *How to Write a Thesis.* Bloomington, Illinois: Public School Publishing Co., 1925. Pp. 136.

Reeves, F. W., and Russell, J. D. *College Organization and Administration.* Indianapolis, Indiana: Board of Education Disciples of Christ, 1929. Pp. 316.
Based on a series of surveys of church colleges.

Reeves, F. W., and Russell, J. D. *Some Aspects of Current Efforts to Improve College Instruction.* Bulletin of the Bureau of School Service, I (December, 1928). Lexington, Kentucky: Bureau of School Service, University of Kentucky. Pp. 96.

Reinoehl, C. M. "Summer-School Courses for Teachers," *Educational Administration and Supervision*, XI (December, 1925), 634–8.

Rugg, E. U. *Curriculum Studies in the Social Sciences and Citizenship.* Colorado Teachers College Education Series, No. 3. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. xiv + 214.

Rugg, H. O. *A Primer of Graphics and Statistics for Teachers.* Boston: Houghton Mifflin Co., 1925. Pp. vi + 142.

Rugg, H. O. *Statistical Methods Applied to Education.* Boston: Houghton Mifflin Co., 1917. Pp. xviii + 410.

Russell, Charles. "The Westfield Conference for Young Teachers," *Educational Administration and Supervision*, XIV (May, 1928), 308–13.
Describes a plan in which arrangements were made for an exchange of normal-school students with graduates in their first year of teaching.

Russell, J. E. "Recent Advance in the Professional Training of Teachers," *Teachers College Record*, XXVI (June, 1925), 807–14.

Sanders, W. F. "Supervision of Instruction in Higher Education," *School and Society*, XXVIII (August 11, 1928), 163–6. Reports a number of experiments and attempts to improve the quality of college teaching.

Schluter, W. C. *How to Do Research Work.* New York: Prentice-Hall, 1926. Pp. viii + 138.

Sears, J. B. *The School Survey.* Boston: Houghton Mifflin Co., 1925. Pp. xxx + 440.

Seashore, C. E. *The Present Status of Research in the Psychology of Music at the University of Iowa.* University of Iowa Studies, Series on Aims and Progress of Research, Vol. II, No. 4. Iowa City, Iowa: University of Iowa, 1928. Pp. 30.
Includes a valuable bibliography.

Shaw, J. H., and Whitney, F. L. *The Junior College Movement.* Greeley, Colorado: Colorado State Teachers College, 1928. Pp. 48.

Snavely, G. E. "Who Is a Great Teacher?" *Association of American Colleges Bulletin*, XV (March, 1929), 68–72.

Stowe, A. M. *Modernizing the College.* New York: Alfred A. Knopf, 1926. Pp. xviii + 126.
Traces the procedure followed in attempting to inaugurate a "modernized" program in a present-day college and indicates the outstanding difficulties encountered; devoted especially to the junior-college problem.

Taylor, W. S. "The Study of Methods of Teaching by a College Faculty," *School and Society*, XI (March 6, 1920), 293–4. Describes the plan followed at the school of agriculture of Pennsylvania State College in developing better methods of teaching.

Theisen, W. W. "Recent Progress in Educational Research," *Journal of Educational Research*, VIII (November, 1923), 301–14.

Thorndike, E. L. "Curriculum Research," *School and Society*, XXVIII (November 10, 1928), 569–76.
Discusses research concerning what is to be learned, uses of various elements of the curriculum, and learners.

Thorndike, E. L. "The Testing Movement in the Light of Recent Research," *Journal of Educational Research*, XVII (May, 1928), 345–9.
Discusses measurement of abilities, scaling of tests, time required, scoring, and improvement in the detailed constitution of tests.

Thurstone, L. L. *The Fundamentals of Statistics.* New York: Macmillan Co., 1925. Pp. xviii + 238.

Tinker, M. A. "Visual Apprehension and Perception in Reading," *Psychological Bulletin,* XXVI (April, 1929), 223–40. Includes a bibliography of 110 references.

Trabue, M. R. "Educational Research in 1925," *Journal of Educational Research,* XIII (May, 1926), 336–44.

Trow, W. C. *Scientific Method in Education.* Boston: Houghton Mifflin Co., 1925. Pp. xii + 160.

Tulloss, R. E. "The Improvement of College Teaching as an Administrative Problem," *Association of American Colleges Bulletin,* XV (March, 1929), 73–89.

Voegelein, L. Belle. *List of Educational Subject Headings.* Columbus, Ohio: Ohio State University, 1928. Pp. xiv + 338.

Walk, G. E. "Student Teaching as an Integral Part of Teacher-Training," *Educational Administration and Supervision,* XIV (May, 1928), 289–98.
Describes the plan in operation at Temple University.

Walters, Raymond. "Cooperation between Schools and Colleges in Raising Intellectual Standards: Report of the Commission on Faculty and Student Scholarship," *Association of American Colleges Bulletin,* XV (March, 1929), 130–50.

Weet, H. S. "The Work of the Articulation Commission," *School and Society,* XXIX (March 16, 1929), 345–51.
A statement of the work of the Commission in preparing the 1929 yearbook of the Department of Superintendence and of plans for further study of articulation problems.

Wellemeyer, J. F. "The Junior College as Viewed by Its Students," *School Review,* XXXIV (December, 1926), 760–7.

Whitney, F. L. "Present Trend of Junior College Laws," *School and Society,* XXVII (June 30, 1928), 789–91.
An analysis of the statutes of fifteen states defining the status of the junior college.

Whitney, F. L. "Seven Years' Change in the Curriculum of the Junior College," *North Central Association Quarterly,* III (December, 1928), 431–8.
Sampling of changes in fifteen public and fifteen private junior colleges.

Whitney, F. L. "Some Limitations of Scientific Method in Education," *Teachers Journal and Abstract,* IV (January, 1929), 59–62.

Emphasizes that theories and so-called truths are not permanent and unchangeable and that science cannot furnish ultimate objectives.

Whitney, F. L. *The Junior College in America.* Colorado Teachers College Education Series, No. 5. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. xxii + 258.

Wickenden, W. E. "Research in the Engineering Colleges," *Science,* LXIX (March 22, 1929), 312–8.

Wilbur, R. L. "The Organization of Stanford University," *School and Society,* XXIX (March 2, 1929), 286–7.

Wilkins, E. H. "College Teaching," *School and Society,* XXVI (November 5, 1927), 567–71.

Wilkins, E. H. "Reorganizing the College Curriculum," *Problems of College Education,* chapter xxix. Edited by Earl Hudelson. Minneapolis, Minnesota: University of Minnesota Press, 1928.

Wilkins, E. H. *The Changing College.* Chicago: University of Chicago Press, 1927. Pp. 132.

Williams, J. H. *Graphic Methods in Education.* Boston: Houghton Mifflin Co., 1924. Pp. xviii + 320.

Williams, S. R. "Strategical Periods for the Encouragement of Research Students," *Science,* New Series, LXVIII (September 14, 1928), 244–5.

Indicates that the most appropriate time to encourage the undertaking of research and graduate work is within or immediately after college days.

Williston, A. L. "The Activities of a Research Scientist in the Government Service," *Educational Record,* X (April, 1929), 126–31.

Windes, E. E., and Greenleaf, W. J. *Bibliography of Secondary Education Research,* 1920–1925. Bureau of Education Bulletin No. 2, 1926. Washington: Bureau of Education. Pp. viii + 96.

Winfield, G. F. *Denominational Education and the Junior College Movement.* Bureau of Education Bulletin No. 19, 1922, pp. 9–12. Washington: Bureau of Education.

Withers, J. W. "Professional Education of Directors of Research in City School Systems," *Journal of Educational Research,* XVII (May, 1928), 335–44.

Lists type of work done by research bureaus, training of directors of research, and principles in the organization of research bureaus.

Wolcott, J. D. *Bibliography of Research Studies in Education*, 1926–1927. Bureau of Education Bulletin No. 22, 1928. Washington: Bureau of Education, 1929. Pp. viii + 162. Includes 1,540 items.

Woodring, Maxie N., and Flemming, Cecile W. "A Partial Bibliography on Study," *Teachers College Record*, XXIX (February, 1928), 417–44.

Woodring, Maxie N., and Flemming, Cecile W. "A Survey of Investigations on Study," *Teachers College Record*, XXIX (March, 1928), 527–49.
A discussion of the literature in the field.

Woodring, Maxie N., and Flemming, Cecile W. "A Survey of Investigations on Study," *Teachers College Record*, XXIX (April, 1928), 605–17.
Summary of recent investigations of study procedures.

Woodring, Maxie N., and Flemming, Cecile W. "Diagnosis as a Basis for the Direction of Study," *Teachers College Record*, XXX (November, 1928), 134–47.
Discusses conditions for study at school, amount and kind of work, methods of work, associates, pupil attitude, teacher personality, assignments, and remedial procedures.

Woody, Clifford. "A Survey of Educational Research in 1923," *Journal of Educational Research*, IX (May, 1924), 375–81.

Wrinkle, W. L. "The Value of Social Education in the Professional Preparation of Teachers," *Educational Administration and Supervision*, XI (December, 1925), 628–34.

Yoakam, G. A. "Research in Elementary Education," *Pittsburgh School of Education Journal*, IV (March–April, 1929), 92–93, 104.
Includes a bibliography of theses in elementary education at Pittsburgh from 1924–1929.

Department of Superintendence of the National Education Association, a yearbook in 1930 on supervision.

"How We Teach," *Association of American Colleges Bulletin*, XIV (November, 1928), 359–454.
A series of articles which describe methods of teaching at Harvard, Princeton, Minnesota, Antioch, Reed, Rollins, Swarthmore, Whittier, and Stanford.

List of References on Higher Education. Library Leaflet No. 35, September, 1927. Washington: Bureau of Education. Pp. 40.

National Committee on Research in Secondary Education. *An Outline of Methods of Research with Suggestions for High School Principals and Teachers.* Bureau of Education Bulletin No. 24, 1926. Washington: Bureau of Education. Pp. vi + 32.

"A Permanent Fund for Educational Research," *Elementary School Journal,* XXIX (April, 1929), 561–2.

The Principal and Progressive Movements in Education. Research Bulletin of the National Education Association, Vol. VII, No. 2, March, 1929. Washington: Research Division of the National Education Association.

A good review of current developments and research in health education, mental hygiene, individual differences, character education, pre-school education, and parental education.

The Effective College. Edited by Robert Lincoln Kelly. New York: Association of American Colleges, 1928. Pp. xii + 302.

A series of discussions by a group of American students of higher education, including treatments of: ideals, curriculum, faculty-student relationships, teaching, scholarship, music and arts of design, religion, finance, and future outlook.

The Report on Undergraduate Education of the Dartmouth College Senior Committee, Part I. Hanover, New Hampshire, May 15, 1924.

Treats various problems of administration, teaching, and the curriculum.

"Wisconsin's Experimental College," *Progressive Education,* IV (October-November-December, 1927), 306–10.

Description and bibliography.

APPENDIX

BIBLIOGRAPHY ON SPECIAL METHOD, THE CURRICULUM, AND PROBLEMS IN TWELVE SUBJECT-MATTER FIELDS, AND MISCELLANEOUS REFERENCES[1]

A. Art.

American Magazine of Art. 1741 New York Avenue, Washington, D. C. Monthly.

School-Arts Magazine. The Davis Press (Inc.), 44 Portland Street, Worcester, Massachusetts. 10 numbers.

American Art Bureau.

American Federation of Arts.

Association of Art Museum Directors.

College Art Association of America.

Eastern Arts Association.

Federated Council on Art Education.

Western Arts Association.

Beam, Lura. "The Place of Art in the Liberal College," *Association of American Colleges Bulletin*, XIII (May, 1927), 265–88.

Discusses tendencies, teachers, students, organization of art departments, and method.

Bradish, Ethelwyn. "The Supervision of Art," *The Supervision of Secondary Subjects*, chapter xi. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

[1] At the beginning of each of the twelve subsequent bibliographies is a list of educational periodicals, educational foundations and boards, and educational associations in the field represented. Where a permanent address is available it is given. Information concerning the addresses of organizations which do not have a permanent central office can be secured from the annual educational directory of the United States Bureau of Education.

Butler, Harold. "The School of Fine Arts," *Higher Education in America*, Part I, chapter viii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Cox, G. J. "The Correlation of Design and Handicraft," *Teachers College Record*, XXX (May, 1929), 873–7.

Farnum, R. B. *Art Education.* Bureau of Education Bulletin No. 13, 1923. Washington: Bureau of Education. Pp. 20.

Farnum, R. B. *Art Education in the United States.* Bureau of Education Bulletin No. 38, 1925. Washington: Bureau of Education. Pp. 16.

Farnum, R. B. "Art in the Colleges," *Association of American Colleges Bulletin*, XIV (December, 1928), 543–6.
Summarizes a study made by Lura Beam of art in seven colleges: Newcomb, Oberlin, Smith, Mills, Dartmouth, Washington, and Chicago.

Ferry, F. C. "Report of the Commission on College Architecture and College Instruction in the Fine Arts," *Association of American Colleges Bulletin*, XV (March, 1929), 127–9.

Good, C. V. "The Objectives and Status of Art Education in Secondary Schools," *Journal of Educational Method*, VII (February, 1928), 209–13.
Includes a statement of objectives, constants, and electives.

Lovett, R. M. "The Meaning and Value of the Arts," *School and Society*, XXVIII (July 7, 1928), 16–8.
Describes a course at the University of Chicago including lectures and demonstrations in painting, architecture, sculpture, music, and literature.

Robinson, Edward. "The Study of Art in Our Colleges," *The Effective College*, chapter xvii. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

Sargent, W. *Instruction in Art in the United States.* Bureau of Education Bulletin No. 43, 1918. Washington: Bureau of Education. Pp. 32.
A survey of art education.

Smith, Holmes. "Arts Instruction in Colleges and Universities," *Bulletin of the American Association of University Professors*, XIV (April, 1928), 246–50.

Tannahill, Sallie B. "Problems in Art Education," *Teachers College Record*, XXVIII (March, 1927), 696–706.
Includes a discussion of objectives and terminology in art education.

Tannahill, Sallie B., and Patrick, Sara L. "Annual Survey of Textbooks and Related Publications in Fine and Industrial Arts," *Journal of Educational Method*, VII (March, 1928), 261–8.
A review of the teaching materials in the field.

Winslow, L. L. *Organization and Teaching of Art*. Baltimore: Warwick and York, 1925. Pp. 148.

"Art Instruction in Colleges and Universities," *Bulletin of the American Association of University Professors*, XIV (April, 1928), 246–50.

"The Fine Arts in American Education," *Association of American Colleges Bulletin*, XII (April, 1926), 57–102.
A series of articles on fine arts, music, landscape architecture, and college architecture.

B. Business and Commercial Education

American Penman. 55 Fifth Avenue, New York City. Monthly.

Balance Sheet. South-Western Publishing Co., Third and Vine Streets, Cincinnati, Ohio. 9 numbers.

Business Educator. 612 North Park Street, Columbus Ohio. 10 numbers.

Commercial Teacher. Educational Publishing Co. (Inc.), Cherokee, Iowa. Monthly.

Journal of Commercial Education. Stenographic World Publishing Co., 44 North Fourth Street, Philadelphia, Pennsylvania. 10 numbers.

American Association of Collegiate Schools of Business.

American Association of University Instructors in Accounting.

Eastern Commercial Teachers Association.

International Association for Commercial Education.

National Association of Accredited Commercial Schools.

National Commercial Teacher Training Association.

National Commercial Teachers Federation.

National Federation of Commerce Guilds.

New England High School Commercial Teachers Association.

New England Penmanship Association.

Southern Commercial Teachers Association.

Blackstone, E. G. *Research Studies in Commercial Education*. University of Iowa Momographs in Education, First Series, No. 7. Iowa City, Iowa: University of Iowa, 1926. Pp. 160.
Reports investigations in the fields of commercial education

as presented at the Iowa Research Conference on Commercial Education in March, 1926.

Blackstone, E. G. "The Supervision of Commercial Education," *The Supervision of Secondary Subjects*, chapter viii. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Book, W. F. *Learning to Typewrite with a Discussion of the Psychology and Pedagogy of Skill.* New York: Gregg Publishing Co., 1925. Pp. 464.

Book, W. F. *The Psychology of Skill with Special Reference to Its Acquisition in Typewriting.* New York: Gregg Publishing Co., 1925. Pp. 258.

Charters, W. W., and Whitley, I. B. *Summary of Report on Analysis of Secretarial Duties and Traits.* Service Bulletin, No. 1. New York: National Junior Personnel Service, 1924. Pp. 62.

Donham, W. B. "Business Teaching by the Case System," *American Economic Review*, XII (March, 1922), 53–65.

Gerstenberg, C. W. "Special Problems of Content and Presentation in Finance Instruction in Large Schools of Commerce," *Journal of Political Economy*, XXIX (May, 1921), 400–9.

Good, C. V. "The High School Curriculum in Commercial Education," *Journal of Commercial Education*, LVI (November, 1927), 263–5.

Includes a statement of objectives, electives, and constants.

Isaacs, N. "Teaching of Law in Collegiate Schools of Business," *Journal of Political Economy*, XXVIII (February, 1920), 113–26.

Jette, P. L. "A Study of the Learning Curves for Two Systems of Shorthand," *Journal of Experimental Psychology*, XI (April, 1928), 145–60.

A study of the Gregg and Burnz systems of shorthand.

Kitson, H. D., and Others. *Commercial Education in Secondary Schools.* Boston: Ginn and Co., 1929. Pp. viii + 374.

Kramer, F. H. "Experimental Research as a Factor in Commercial Education." Unpublished Doctor's thesis, University of Pennsylvania, 1920.

Lockenow, R. M. "Using Tables in Teaching Commercial Law," *Balance Sheet*, X (April, 1929), 242–4.

Lomax, P. S. *Commercial Teaching Problems.* New York: Prentice-Hall, Inc., 1928. Pp. viii + 200.

Lomax, P. S. "What Kind of Business Education Do We Want?" *Balance Sheet*, IX (February, March, April, May, 1928), 4–7, 39; 4–7, 40; 3–8; 3–7.

Lyon, L. S. *Education for Business.* Chicago: University of Chicago Press, 1922. Pp. xiv + 618.
Discusses objectives of business education and the functions of the various types of institutions in the field, and indicates desirable curriculums for secondary and collegiate schools.

Madden, J. T., and Others. "Coordination of Instruction in Collegiate Schools of Business with Corporation Training Courses," *Journal of Political Economy*, XXIX (November, 1921), 710–20.

Marshall, L. C. "The School of Commerce," *Higher Education in America*, Part I, chapter iv. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Mayer, J. "Modern Business Education and Research," *Scientific Monthly*, XX (March, 1925), 257–69.

Parsons, F. W. "Harvard Teaching Business the Way It Teaches Law," *World's Work*, XLVI (June, 1923), 166–73.

Power, R. R. "Supervised Employment in University Schools of Business Administration," *Educational Review*, LXI (April, 1921), 346–9.

Secrist, H. "Research in Collegiate Schools of Business," *Journal of Political Economy*, XXVIII (May, 1920), 353–74.

Weersing, F. J. "Some Fundamental Problems in the Improvement of Commercial Education," *California Quarterly of Secondary Education*, III (June, 1928), 327–36.
Discusses objectives and the curriculum.

Weersing, F. J. "The Training of Commercial Teachers," *Balance Sheet*, X (April, 1929), 225–8.

C. English and Speech

American Speech. Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore, Maryland. Monthly.

Elementary English Review. 6505 Grand River Avenue, Detroit, Michigan. 10 numbers.

English Journal, College and High School Editions. National Council of Teachers of English, University of Chicago Press, Chicago, Illinois. 10 numbers.

English Leaflet. New England Association of Teachers of English, Cambridge, Massachusetts. 9 numbers.

Philological Quarterly. University of Iowa, Iowa City, Iowa. Quarterly.

Quarterly Journal of Speech Education. National Association of Teachers of Speech, 10–12 Chester Street, Champaign, Illinois. Quarterly.

American Academy of Speech Correction.

College Conference on English in the Central Atlantic States.

Inland Empire Education Association, Council of English.

National Association for American Speech.

National Association of Teachers of Speech.

National Council of Teachers of English.

National Society for the Study and Correction of Speech Disorders.

New England Association of Teachers of English.

Abbott, Allan. "What the English Teacher Should Know," *English Journal,* College Edition, XVII (April, 1928), 315–20.
Based on recommendations of competent authorities on the training of English teachers, earlier committee investigations, information on the training of teachers of the mother tongue of other countries, demands of the schools as shown by the stated qualifications for the teaching license and examinations for the license, types of preparation offered in teacher-training institutions, field studies, and pupil reactions.

Albright, Beatrice F., and Horning, Floy. "Typical Reading Disabilities of College Entrants," *California Quarterly of Secondary Education,* III (January, 1928), 166–9.
Data secured from 1,053 college entrants.

Anderson, E. M. "Individual Differences in the Reading Ability of College Students," *Journal of Educational Research,* XIX (April, 1929), 309–10.
Abstract of a Doctor's dissertation, University of Missouri, 1928.

Averill, L. A., and Mueller, A. D. "Some Results of Intelligence Tests and Achievement Tests in English Given to Entering Normal School Students," *Educational Administration and Supervision,* XIII (January, 1927), 20–5.
The data for this study consist of results secured from administering the Otis Intelligence Test, and the Cross English and Inglis vocabulary tests to 114 students.

Baker, H. T. "English and the Ph.D.," *English Journal,* College Edition, XVII (December, 1928), 820–4.
Questions the value of the Doctor's degree in the teaching of English.

Bernbaum, Ernest. "Graduate Study in English Literature," *English Journal,* XVII (January, 1928), 33–43.

Birk, W. O. "Do Engineering Students Want to Study English Composition?" *English Journal*, X (November, 1921), 526–30.

Blayney, L. "Our Colleges and Literary Disciplines," *North American Review*, CCXIX (June, 1924), 823–34.

Bode, B. H. "Concerning the Teaching of English," *English Journal*, College Edition, XVIII (May, 1929), 381–9.

Book, W. F. "How Well College Students Can Read," *School and Society*, XXVI (August 20, 1927), 242–8.
Discusses deficiencies in reading, relation between reading and academic success, need for remedial instruction, and results of an experiment with four groups of students made to improve reading ability.

Breck, E. J. "Present-Day Needs in the Training of English Teachers," *English Journal*, XII (October, 1923), 545–56.
Analysis of the qualities desirable in an English teacher.

Briggs, L. B. R. *To College Teachers of English Composition.* Boston: Houghton Mifflin Co., 1928. Pp. 50.

Broom, M. E., and Others. "Sex Differences in Handwriting," *Journal of Applied Psychology*, XIII (April, 1929), 159–66.

Brown, C. A., and McKee, J. H. "Prolegomena to a New Spelling Test," *English Journal*, College Edition, XVII (October, 1928), 651–8.
Lists difficulties encountered in encouraging university students to spell respectably and lists types of words misspelled frequently.

Cable, W. A. "A Criticism Card for Class Use," *Quarterly Journal of Speech Education*, XII (April, 1926), 186–8.

Campbell, O. J. "Introductory Course in Literature," *English Journal*, College Edition, XVII (November, 1928), 740–8.
Describes the introductory course in literature at the University of Michigan.

Campbell, O. J. "The Value of the Ph.D. to Teachers of English," *English Journal*, XV (March, 1926), 3.

Carter, T. M. "A Standardized Mental Test vs. an Unstandardized English Test as a Means of Predicting Success in College English," *School and Society*, XXVI (July 30, 1927), 151–2.
Gives methods used and correlations obtained between college grades and (1) mental tests, (2) preliminary English test.

Chambers, R. W. *The Teaching of English in the Universities of England.* Oxford: Oxford University Press, 1922. Pp. ii + 36.

Clark, D. L. "Classification of College Freshmen, The University of Texas," *English Journal*, College Edition, XVIII (April, 1929), 330–4.
A report on results secured from 178 students.

Clark, Harriet M. "Errors in Freshman Composition," *English Journal*, College Edition, XVIII (January, 1929), 32–4.
Based in part on the themes of one hundred freshmen at the beginning and end of the year.

Coale, W. B. *The Professional Needs of Teachers of English.* Teachers College Contributions to Education, No. 334. New York: Teachers College, Columbia University, 1928. Pp. 86.

Coffman, G. R. "Correlation Between High-School and College English," *English Journal*, XI (March, 1922), 129–39.

Cox, Sidney. *The Teaching of English:* Avowals and Ventures. New York: Harper and Bros., 1928. Pp. 172.

Crawford, C. C. "Relative Values of Reading and Outlining as Methods of Study," *Educational Method*, VIII (May, 1929), 434–8.
Experiments include 436 college students and indicate the advantages of a single reading.

Crocker, Lionel. "The Impact of English on Japanese," *English Journal*, College Edition, XVII (April, 1928), 288–94.
Gives an account of the teaching of the English language in Japan.

Crocker, Lionel. "Keeping the Class Alive," *Quarterly Journal of Speech Education*, XII (February, 1926), 30–5.

Cross, E. A *Fundamentals in English.* New York: Macmillan Co., 1926. Pp. xiv + 526.

Cross, E. A. "Fundamentals for English Teachers," *The English Journal*, XVI (May, 1927), 364–73.

Davidson, L. J. "College Freshman Composition," *English Journal*, X (September, 1921), 392–6.

Dilla, Geraldine P. "A College Course on Teaching Secondary-School English," *Peabody Journal of Education*, II (March, 1925), 258–64.
Discusses content, method, and function of the course.

Dolbee, Cora. "What Can We Teach Freshmen?" *English Journal*, College Edition, XVII (March, 1928), 220–9.
Deals with the teaching of English.

Downey, J. E. *Graphology and the Psychology of Handwriting.* Educational Psychology Momograph, No. 24. Baltimore: Warwick and York, 1919. Pp. 142.

Drew, E. A. "Literature in College," *Atlantic Monthly*, CXXXI (January, 1923,), 62–8.

Ellis, Amanda M. "Teaching the Short Story in the Course in Freshman Composition," *English Journal*, College Edition, XVIII (May, 1929), 403–9.

Fairchild, A. H. R. "The Sequence of Courses for College and University Students Who Choose English as a Major Subject," *English Journal*, XII (March, 1923), 153–63.

Gilbert, A. H. "What Shall We Do with Freshman Themes?" *English Journal*, XI (September, 1922), 392–403.

Good, C. V. "English Objectives and Constants in Secondary Schools," *Peabody Journal of Education*, V (January, 1928), 230–5.
Includes a statement of objectives, electives, and constants.

Good, C. V. "An Experimental Study of the Merits of Extensive and Intensive Reading in the Social Sciences," *School Review*, XXXIII (December, 1925), 755–70.
Presents the methods and results of a study among high-school and college students to determine the merits of several reading and study procedures.

Good, C. V. "Proficiency in Outlining," *English Journal*, XV (December, 1926), 737–42.

Good, C. V. *The Supplementary Reading Assignment.* Baltimore: Warwick and York, 1927. Pp. xiv + 228.
A detailed study of the merits of textbook and supplementary materials and of extensive and intensive reading procedures in the social sciences applying especially at the college and high-school levels.

Gott, Charles. "College-Entrance Standards in English," *English Journal*, College Edition, XVII (October, 1928), 646–51.
Report of a committee on coordination.

Grace, A. G. "The Reading Interests of Adults," *Journal of Educational Research*, XIX (April, 1929), 265–75.

Graves, C. E. "Recreational Reading for College Students," *Libraries*, XXXI (October, 1926), 425–30.

Gray, W. S. *Summary of Investigations Relating to Reading.* Supplementary Educational Monographs, No. 28. Chicago: Department of Education, University of Chicago, 1925. Pp. viii + 276.
Includes references to 436 studies made in England or America; see the *Elementary School Journal* for February, March, April, May, 1926, for references to 73 additional

studies; for February and March, 1927, for references to 56 additional studies; for February, March, and April, 1928, for references to 113 studies; for February and March, 1929, for references to 101 studies.

Gray, W. S., and Munroe, Ruth. *The Reading Interests and Habits of Adults.* New York: Macmillan Co., 1929. Pp. xiv + 306.

Gray, J. S. "Hyphenated Speech Courses," *Quarterly Journal of Speech,* XV (April, 1929), 208–16.

Guiler, W. S. "Diagnosing Student Shortcomings in English Composition," *Journal of Educational Research,* XIV (September, 1926), 112–9.
Shows the value of diagnostic tests in discovering learning difficulties.

Hale, C. B., and Carroll, W. B. "What Freshmen Read," *Educational Review,* LXX (December, 1925), 260–3.
A list of authors in rank order compiled from reports of 143 students of freshman English at Cornell University.

Hendrickson, G., and Pechstein, L. A. "Spelling Consciousness of College Students," *Journal of Educational Psychology,* XVII (January, 1926), 37–44.

Henry, R. L. "Flunking Comp," *Educational Review,* LXXIV (September, 1927), 109–14.
Gives results of questionnaires sent to 446 students in an attempt to analyze why there are so many failures in freshman composition; blame is placed on the high-schools for lack of (1) teaching of grammar and (2) teaching of composition.

Henry, R. L. "Freshman English in the Middle West," *English Journal,* College Edition, XVII (April, 1928), 299–310.
A survey of freshman English in twenty-seven colleges and universities.

Hicks, P. M. "Honors Courses in English," *English Journal,* College Edition, XVIII (March, 1929), 230–7.

Horn, Ernest. "The Influence of Past Experiences upon Spelling," *Journal of Educational Research,* XIX (April, 1929), 283–8.

Horn, P. W. "College English," *Journal of Education,* CVIII (September 24, 1928), 238–40.
A general discussion of the content of college English courses.

Houghton, F. "Training Teachers to Teach English," *Educational Review,* LXV (February, 1923), 100–2.

Howes, R. F. "Finding Debate Audiences," *Quarterly Journal of Speech Education,* XI (November, 1925), 364–8.

Howes, R. F. "Shall Debating Secede?" *English Journal*, College Edition, XVIII (May, 1929), 411–5.

Hudelson, Earl. *English Composition: Its Aims, Methods and Measurement*. Twenty-Second Yearbook of the National Society for the Study of Education, Part I, pp. 1–161. Bloomington, Illinois: Public School Publishing Co., 1923.
Includes a bibliography which covers the period, 1911–22.

Hughes, H. S. "The Prescribed Work in College English: Its Relation to the Secondary Schools," *English Journal*, XI (April, 1922), 199–213.

Immel, R. K. "Speech and the Talking Pictures," *Quarterly Journal of Speech*, XV (April, 1929), 159–65.

James, H. W. "A National Survey of the Grading of College Freshman Composition," *English Journal*, XV (October, 1926), 579–87.
Based on reports from seventy-five schools and 363 instructors.

Jersild, Arthur. "Modes of Emphasis in Public Speaking," *Journal of Applied Psychology*, XII (December, 1928), 611–20.
An experiment with ten groups of college students totaling 253 persons.

Jewett, Ida A. *English in State Teachers Colleges:* A Catalogue Study. Teachers College Contributions to Education, No. 286. New York: Teachers College, Columbia University, 1927. Pp. viii + 176.

Johnson, R. I. "The Curriculum in English Expression," *Educational Administration and Supervision*, XV (January, 1929), 30–7.

Johnson, R. I. "Determining Standards in English Composition, I," *School Review*, XXXVI (December, 1928), 757–67.
Lists fifty-four conversational traits derived from four sources.

Johnson, R. I. *English Expression: A Study in Curriculum Building*. Bloomington, Illinois: Public School Publishing Co., 1926. Pp. 106.

Joy, F. L. "Gleanings from the Class in Freshman English," *English Journal*, IX (April, 1920), 201–9.

Judd, C. H., and Buswell, G. T. *Silent Reading: A Study of the Various Types*. Supplementary Educational Monographs, No. 23. Chicago: Department of Education, University of Chicago, 1922. Pp. xiv + 160.
Discusses effect on reading habits of changes in the content and purpose of reading, distinguishes analytical study from

reading, and describes characteristic eye-movements in reading foreign languages.

Kaufman, Paul. "Promethean Fire: A Challenge to the American College," *School and Society*, XXVIII (August 4, 1928), 121–8.

A discussion of creative writing and English courses in college.

Kirkpatrick, J. E. "What They Read," *School and Society*, XII (December 4, 1920), 559–60.

Knower, F. H. "Psychological Tests in Public Speaking," *Quarterly Journal of Speech*, XV (April, 1929), 216–22.

Knower, F. H. "A Suggestive Study of Public-Speaking Rating-Scale Values," *Quarterly Journal of Speech*, XV (February, 1929), 30–42.

Includes reproductions of scales.

Lahman, C. P., Harkness, P. J., and McCarthy, Margaret. "Speech Needs and Objectives Peculiar to Teacher-Training Institutions: A Symposium," *Quarterly Journal of Speech*, XV (April, 1929), 222–37.

Discusses present status, general organization and nomenclature, and aids to prospective grade teachers.

Lee, J. M. *Instruction in Journalism in Institutions of Higher Learning.* Bureau of Education Bulletin No. 21, 1918. Washington: Bureau of Education. Pp. 36.

Leiper, M. A. *A Diagnostic Study of the Errors Made by College Freshmen in their Written Compositions.* Peabody Contributions to Education, No. 22. Nashville, Tennessee: George Peabody College for Teachers, 1926.

Leonard, S. A. "The Supervision of English," *The Supervision of Secondary Subjects*, chapter vi. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Lodge, G. "Dramatic Interpretation in the Teaching of the Classics," *Teachers College Record*, XXI (May, 1920), 217–37.

Discusses the method and importance of dramatic interpretation.

Lyman, R. L. *Summary of Investigations Relating to Grammar, Language, and Composition.* Supplementary Educational Monographs, No. 36. Chicago: Department of Education, University of Chicago, 1929. Pp. viii + 302.

McIntyre, C. F. "Out of the Mouths of Freshmen," *English Journal*, IX (February, 1920), 96–102.

McKee, J. H., and Conklin, R. J. "College Spelling—Can It Be Improved?" *English Journal*, XVII (January, 1928), 43–9.

McNeil, R. H. "Training on College Newspapers," *School and Society*, XXIX (March 30, 1929), 419–20.

Malone, Kemp. "English Linguistics and the Ph.D.," *English Journal*, College Edition, XVIII (April, 1929), 312–20.

Marsh, Lucile. "The Project Method in Speech Education," *Quarterly Journal of Speech*, XV (April, 1929), 181–8.

Meadows, L. R. *A Study of the Teaching of English Composition in the Teachers Colleges of the United States.* Teachers College Contributions to Education, No. 311. New York: Teachers College, Columbia University, 1928. Pp. 96.
Based on a study of present problems and practices; outlines a suggested course of procedure.

Mirrielees, L. B. "American University Training in English of Prospective High School Teachers." Unpublished Doctor's thesis, Stanford University, 1924.

Moffett, H. Y. "Applied Tactics in Teaching Literature," *English Journal*, College Edition, XVII (September, 1928), 556–9.
Discusses a method of teaching *The Fall of the House of Usher.*

Montgomery, Wilda L. "An Investigation of the Uses of Recreatory Reading," *Pittsburgh School of Education Journal*, IV (March-April, 1929), 90–91, 103.

Moore, Samuel, and Others. "Training in English Language for English Teachers," *English Journal*, College Edition, XVII (December, 1928), 825–35.
A first report of the National Council's Committee on English Language Courses in Colleges and Universities.

Morse, W. L. "The Application of Mental-Hygiene Technique in Teaching Speech," *Mental Hygiene*, XIII (April, 1929), 336–42.

Morse, W. L. "The Mental-Hygiene Approach in a Beginning Speech Course," *Quarterly Journal of Speech Education*, XIV (November, 1928), 543–53.
Draws upon the literature and the author's experience.

O'Konski, Alvin. "The Project Method in the Teaching of Speech," *Quarterly Journal of Speech*, XV (April, 1929), 188–94.

Pattee, F. L. "American Literature in the College Curriculum," *Educational Review*, LXVII (May, 1924), 266–72.

Pendleton, C. S. *The Social Objectives of School English.* Nashville, Tennessee: G. S. Pendleton, 1924. Pp. 226.

Pillsbury, W. B., and Meader, C. L. *The Psychology of Language.* New York: D. Appleton and Co., 1928. Pp. viii + 306.

Potter, H. E. *Abilities and Disabilities in the Use of English Found in the Written Compositions of Entering Freshmen at the University of California.* Bureau of Research Studies, No. 12. Berkeley, California: University of California, 1922. Pp. 52.

Prescott, Winward. "Two Courses in Public Speaking for Engineers," *Journal of Engineering Education,* XVIII (April, 1928), 843–8.

Rae, Florence J., and Pressey, S. L. "A Comparison of 'Honor' and 'Zero' Sections in English Composition," *Educational Research Bulletin,* VI (April 27, 1927), 183–5, 198. Columbus, Ohio: Bureau of Educational Research, Ohio State University. Analyzes the compositions of good and poor students with reference to types of sentences used and errors made.

Rankin, P. T. "The Importance of Listening Ability," *English Journal,* College Edition, XVII (October, 1928), 623–30. An investigation of the amount of time devoted to oral language with suggestions relative to the emphasis to be given oral training in the English curriculum.

Reeve, Richard. "A Study in Dreams and Freshman Composition," *English Journal,* College Edition, XVII (December, 1928), 835–44. Describes a novel use of students' dreams in stimulating the composition work of a class.

Remmers, H. H., and Stalnaker, J. M. "An Experiment in Remedial Reading Exercises at the College Level," *School and Society,* XXVIII (December 22, 1928), 797–800. Summarizes related experiments and reports results secured from seven students at Purdue.

Rockwell, L. L. "Honors Courses in English in American Colleges," *English Journal,* XV (May, 1926), 336–43.

Royster, J. F. "Preparation of the English Composition Teacher," *English Journal,* XII (June, 1923), 397–404. General discussion of qualities desirable in the composition teacher.

Rutland, J. R. "Tendencies in the Administration of Freshman English," *English Journal,* XII (January, 1923), 1–10. Reports the results of a questionnaire study of English in forty institutions of higher learning.

Ryan, C. T. "Careers in College Composition Classes," *English Journal,* XIII (February, 1924), 120–4.

Describes devices used to make composition work practical and interesting by studying and writing up the various professions.

Savage, H. J. "Personnel for College Composition," *English Journal*, X (October, 1921), 439–49.

Schutte, T. H. "A Study of Diction Consciousness of College Freshmen," *Peabody Journal of Education*, VI (March, 1929), 289–93.

Severance, H. O. "What Do University Students Read?" *School and Society*, XXIII (June 5, 1926), 726–8.
A study to ascertain the trend of students' voluntary reading in the University of Missouri.

Shepherd, J. W. "College Freshman Placement Tests," *Phi Delta Kappan*, XI (February, 1929), 131–3.
Covers English and reading in Oklahoma institutions.

Shipherd, H. R. "Required Composition for College Freshmen," *Education*, XLIX (September, 1928), 18–25.
Based on a questionnaire study of practices in seventy-five colleges and universities.

Spiller, R. E. "Pre-Honors Courses," *English Journal*, XV (September, 1926), 499–506.

Stalnaker, J. M., and Eggan, Fred. "American Novelists Ranked: A Psychological Study," *English Journal*, XVIII (April, 1929), 295–307.

Steeves, H. R. "From High-School Literature to College Literature," *English Journal*, XV (February, 1926), 102–7.

Stephens, S. D. *Individual Instruction in English Composition.* Cambridge, Massachusetts: Harvard University Press, 1928. Pp. 150.

Stevens, D. H. *The Teaching of College Composition.* New York: Century Co., 1927. Pp. 108.
One able teacher's comment in seven concrete chapters.

Stinchfield, S. M. "Speech of Five Hundred Freshman College Women," *Journal of Applied Psychology*, IX (June, 1925), 109–21.

Stone, C. W. "Improving the Reading Ability of College Students," *Journal of Educational Method*, II (September, 1922), 8–23.
Presents data secured from fifteen college classes.

Tassin, Algernon. "Oral Reading as an Intelligence Test," *Quarterly Journal of Speech Education*, XI (June, 1925). 258–66.

Thomas, C. S. "Courses in the Teaching of English at Harvard," *English Journal*, College Edition, XVII (June, 1928), 494–7.
A discussion of the work at Harvard.

Tomison, W. S. *The Teaching of English: A New Approach.* Oxford University Press, 1921. Pp. 230.
Stresses debate, to be followed by reading of classic literature.

Trueblood, T. C. "A Chapter on the Organization of College Courses in Public Speaking," *Quarterly Journal of Speech Education*, XII (February, 1926), 1–11.
Largely historical with a statement of modern types of courses offered.

Van Wagenen, M. J. "The Achievement of College Students in Freshman Rhetoric," *Educational Administration and Supervision*, XII (December, 1926), 603–10.

Van Wye, B. C. "Our Neglect of Voice Training," *Quarterly Journal of Speech*, XV (April, 1929), 202–8.

Wesenberg, Alice B. "Oral Composition in College," *English Journal*, XII (December, 1923), 686–9.
Brief discussion of ways of vitalizing oral composition.

White, H. A. "The Recent Trend in Debating," *English Journal*, College Edition, XVIII (April, 1929), 320–9.

Witty, P. A., and Fry, Mabel. "The Vocabulary Content of Compositions Written by College Students," *Journal of Educational Research*, XIX (February, 1929), 135–8.

Wykoff, G. S. "On the Revision of Ph. D. Requirements in English," *English Journal*, College Edition, XVII (March, 1928), 213–20.
Refers to other articles on the same subject and suggests a teaching rather than a research degree with an outline of the training needed, as the author sees it.

Wykoff, G. S. "Should the College Teacher of English Publish?" *School and Society*, XXII (November 28, 1925), 687–8.
A discussion of the value of research work in English and the attitude the college teacher of English should have toward doing research work.

"Poetry in the Colleges," *Poetry*, XXIX (December, 1926), 151–6.

D. Foreign Languages

Classical Journal. University High School Building, Ann Arbor, Michigan. 9 numbers.

Classical Weekly. Barnard College, New York City. Weekly during college year.

Hispania. American Association of Teachers of Spanish, Stanford University, California. 6 numbers.

Latin Notes. Service Bureau for Classical Teachers, Teachers College, Columbia University, New York City. 8 numbers.

Modern Language Journal. National Federation of Modern Language Teachers, University of Wisconsin, Madison, Wisconsin. 8 numbers.

Modern Languages Forum. Modern Language Association of Southern California, 1240 South Main Street, Los Angeles, California.

American Association of Teachers of Italian.

American Classical League.

Association of Modern Language Teachers of the Central West and South.

Association of Modern Language Teachers of the Middle States and Maryland.

Classical Association of New England.

Classical Association of the Atlantic States.

Classical Association of the Middle West and South.

Classical Association of the Middle West and South, Southern Branch.

Classical Association of the Pacific States.

Modern Language Association of America.

National Federation of Modern Language Teachers.

New England Modern Language Association.

Société des Professeurs Français en Amerique.

Society for the Advancement of Scandinavian Study.

Atkins, H. G., and Hutton, H. L. *The Teaching of Modern Foreign Languages in School and University.* New York: Longmans, Green and Co., 1920. Pp. viii + 246.
A textbook by English authors applying to secondary and higher education.

Atkins, H. G., and Hutton, H. L. "The Teaching of Modern Foreign Languages in School and University," *School Review*, XXVIII (December, 1920), 792–3.

Baker, Florence M. "A Tentative Vocabulary for First Year French Students," *Journal of Educational Research*, XVIII (December, 1928), 369–77.
Compares the author's French vocabulary with the Thorndike and Henmon word lists.

Bell, W. J. "Psychology of Learning a Foreign Language." Unpublished Doctor's thesis, University of Wisconsin, 1918.

Bond, O. F. "The Organization and Administration of a First Year French Course at the College Level," *Studies in Secondary Education*, II, pp. 177–200. Supplementary Educational Monographs, No. 26. Chicago: Department of Education, University of Chicago, 1925.
Includes an outline of the first-year French course in the junior college at the University of Chicago, data on the reading done by students, case studies, and reproductions of record blanks.

Bond, O. F. "The Organization and Use of a Departmental Reading Collection in the Modern Languages," *Modern Language Journal*, IX (May, 1925), 483–8.
Emphasizes reading ability as an aim of instruction and gives data on the use of the author's departmental library at the University of Chicago.

Bond, O. F. "Reading for Language Power," *Modern Language Journal*, X (April, 1926), 411–26.
Emphasizes wide reading and presents data concerning type and amount of material read by juinor college classes.

Bovée, A. G. "A Suggested Score Card for Attainment in Pronunciation," *Modern Language Journal*, X (October, 1925), 15–9.
Reproduces score card for use in testing French pronunciation.

Bronk, Isabelle. "Attainable Aims in Modern Language Teaching in Colleges or, What May We Safely Hope to Accomplish in Modern Language Courses in College," *Modern Language Journal*, V (January, 1921), 179–85.
Theoretical discussion of objectives.

Buchanan, M. A. *A Graded Spanish Word Book.* Vol. III of the Modern Foreign Language Study. Toronto, Ontario, Canada: University of Toronto Press, 1927. Pp. 196.

Buchanan, M. A. "The Modern Foreign Language Study in Canada," *Educational Record*, VIII (October, 1927), 266–76.
Report of the chairman.

Buchanan, M. A., and MacPhee, E. D. *An Annotated Bibliography of Modern Language Methodology.* Vol. VIII of the Modern Foreign Language Study. Toronto, Ontario, Canada: University of Toronto Press, 1928. Pp. 428.

Buckingham, B. R. "A Belated Acknowledgment," *Journal of Educational Research*, XVIII (June, 1928), 77–80.
A defense of the classical investigation.

Buswell, G. T. *A Laboratory Study of the Reading of Modern Foreign Languages.* Vol. II of the Modern Foreign Language Study. New York: Macmillan Co., 1927. Pp. xii + 100. Uses the eye-movement apparatus to photograph subjects in Latin, French, German, and Spanish.

Cabeen, D. C. "Cultural Values in Elementary French," *Peabody Journal of Education*, IV (September, 1926), 69–74.

Castillo, C. "A First Course in Spanish Conversation in College," *Modern Language Journal*, IV (April, 1920), 331–5.
Brief description of methods and materials used by the author.

Cerf, Mme. G. W. "Some Essentials in the Training of Language Teachers for the Junior High School," *Educational Administration and Supervision*, IX (May, 1923), 315–21.
General discussion of the training of French teachers.

Cheydleur, F. D. "The Construction and Validation of a French Grammar Test of the Selection or Multiple-Choice Type," *Journal of Educational Research*, XVII (March, 1928), 184–96.
Presents data secured in the University of Wisconsin and in high schools.

Cheydleur, F. D. "Results and Significance of the New Type of Modern Language Tests," *Modern Language Journal*, XII (April, 1928), 513–31.
Includes discussions of the Henmon French Tests, the Columbia Research Bureau Tests, the Iowa Placement Examinations, and the American Council Tests.

Churchman, P. H. "Wanted: The Graduate School of Teacher-Training," *Modern Language Journal*, XI (October, 1926), 1–11.
Makes a plea for advanced work in teacher-training for the modern-language teacher and offers suggestions as to the work to be offered.

Cole, R. D. "The Supervision of Modern Foreign Languages and Literature," *The Supervision of Secondary Subjects*, chapter v. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Coleman, Algernon, and Cheydleur, F. D. *A French Idiom List.* Vol. XVI of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Coleman, Algernon. "Recent Research in the Teaching of Modern Foreign Languages," *Sixth Yearbook of the Department of Superintendence*, pp. 360–71. Washington: Department of Superintendence, 1928.

Coleman, Algernon. *The Teaching of Modern Foreign Languages in the United States.* Vol. XII of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Coleman, Algernon. "What the Modern Language Teacher Must Do for the Modern Foreign Language Study," *Modern Language Journal*, X (November, 1925), 65–73.
Suggests a list of fifty-eight problems for investigation.

Fenton, Norman, and Hill, Victor D. "An Experimental Study of a Visual Method in Latin Translation," *School Review*, XXXVI (November, 1928), 675–8.
Used the parallel-group method, with nine college students in each group, to compare a visual method with the usual textbook method.

Fick, M. L. "The Problem of Bilingual Instruction with Special Reference to Instruction in the Transvaal." Unpublished Doctor's thesis, Harvard University, 1924.

Fife, R. H. "The Modern Foreign Language Study in the United States," *Educational Record*, VIII (October, 1927), 251–65.
Report of the chairman of the Committee.

Fife, R. H. "The Modern Foreign Language Study in the United States," *Educational Record*, IX (October, 1928), 189–208.
Reviews the work and lists the publications of the Committee.

Fite, A. G. "Problems of Modern Language Teaching in the Junior College," *Modern Language Journal*, XIII (March, 1929), 459–64.

Foster, F. M. "Course of Study for the Training of College Teachers of Latin," *School and Society*, XIII (February 26, 1921), 268–70.

Friedl, B. C. "A Study in Foreign Language Prognosis," *Modern Language Journal*, XI (February, 1927), 298–314.
Describes an experiment in which a general prognosis test, intended for use in any foreign language, was used.

Gray, M. D. "The Supervision of Latin," *The Supervision of Secondary Subjects*, chapter iv. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Green, A. "Present Status of Italian in Colleges and Universities," *Modern Language Journal*, IX (October, 1924), 33–9.

Greenleaf, Jeanne H. "French Pronunciation Tests," *Modern Language Journal*, XIII (April, 1929), 534–7.

Hagboldt, Peter. *Building the German Vocabulary.* Chicago: University of Chicago Press, 1928, Pp. 72.

Hagboldt, Peter. "Experimenting with First-Year College German," *Modern Language Journal*, IX (February, 1925), 293–305.
Includes suggestions for guidance in extensive reading, a statement of objectives, and data on amount of material read.

Hagboldt, Peter. *How to Study Modern Languages in College.* Chicago: University of Chicago Press, 1925. Pp. viii + 24. [Paper.]

Hagboldt, Peter. "Making the Reading Lesson Effective," *Modern Language Journal*, XI (December, 1926), 129–32.
Discusses nine phases of reading in foreign languages.

Handschin, C. H. *Methods of Teaching Modern Languages.* Yonkers-on-Hudson, New York: World Book Co., 1923. Pp. vi + 480.
A standard textbook on methods.

Hathaway, Lillie V. "A German Error Count—An Experimental Study," *Modern Language Journal*, XIII (April, 1929), 512–33.

Hauch, E. F. *A German Idiom List.* Vol. X of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Henmon, V. A. C. *Achievement Tests in the Modern Foreign Languages.* Vol. V of the Modern Foreign Language Study. New York: Macmillan Co., 1929. Pp. xxvi + 364.

Henmon, V. A. C. "Some Significant Results of the Modern Foreign Language Study," *Journal of Educational Research*, XIX (February, 1929), 79–91.
Includes a list of the Committee's publications.

Henmon, V. A. C., and Vander Beke, G. E. *A French Frequency Word Book.* Vol. XV of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Henry, F. S. "Attainable Aims in Modern Language Teaching in the Preparatory Schools," *Modern Language Journal*, V (December, 1920), 121–8.

Jeffords, C. R. "The Evolution of Latin-Teaching," *School Review*, XXXV (October, 1927), 576–98.
Emphasizes present tendencies at the secondary level in a way that should be of interest to college teachers.

Johnson, Laura B. "Teacher Training through Participation," *Modern Language Journal*, VII (October, 1922), 28–37.
Advocates student teaching or participation as a part of the training of modern-language teachers.

Kaulfers, Walter. "Method for the Large Foreign-Language Class," *Hispania*, XII (March, 1929), 189–94.

Keniston, Hayward. "The Role of the Graduate School in the Training of the Modern Language Teacher," *Modern Language Journal*, VII (October, 1922), 1–4.
Brief discussion of the type of work which should be offered for the graduate student of foreign language.

Keniston, Hayward. *A Spanish Idiom List.* Vol. XI of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Kinne, C. "A Course on French Customs as an Aid to the Study of French," *Modern Language Journal*, XI (February, 1927), 320–6.

Knapp, Charles. "Teachers of the Classics, and Education in the United States: The Past—the Future," *Classical Journal*, XXIV (June, 1929), 643–58.

Kunze, Emma G. "The Use of the Phonograph in Language Work," *Modern Language Journal*, XIII (April, 1929), 538–49.

Lemon, J. F. "A Psychological Study on the Subjunctive Mood in Spanish," *Modern Language Journal*, XI (January, 1927), 195–9.
Suggests a rule for distinguishing the subjunctive mood from the indicative.

Lemper, L. H. "Objective versus Subjective Tests in Modern Languages," *Modern Language Journal*, X (December, 1925), 175–7.
An experiment to determine the relative validity of objective and subjective or essay types tests; only results of the tests in French are given in this article.

Lensner, H. J. "The Cleveland Experiment," *Modern Language Journal*, XIII (February, 1929), 393–8.
Includes a statement of ten fundamental principles in foreign-language teaching.

Lister, J. T. "The Status of Spanish in the State and Private Universities and Representative Colleges in the United States," *Modern Language Journal*, X (May, 1926), 495–9.

MacPhail, A. H. "Freshman Academic Achievement in Colleges of Students Presenting Four Years of Latin and Those Presenting No Latin," *School and Society*, XIX (March 1, 1924), 261–2.

Morgan, B. Q. *A German Frequency Word Book.* Vol. IX of the Modern Foreign Language Study. New York: Macmillan Co., 1928.

O'Shea, M. V. *The Reading of Modern Foreign Languages.* Bureau of Education Bulletin No. 16, 1927. Washington: Bureau of Education. Pp. viii + 78.
A questionnaire study of the extent to which those who have pursued French, German, or Spanish in high school or in college or in both read these languages after graduation with a brief comment on present methods of teaching foreign languages.

Packer, P. C., and Others. *Analysis of College French,* (in preparation).
Subsidized and sponsored by the Committee on Administrative Units of the Commonwealth Fund.

Palmer, H. E. *The Principles of Language Study.* Yonkers-on-Hudson, New York: World Book Co., 1921. Pp. 186.

Pargment, M. S. "The Effect on Achievement of Method Used," *Modern Language Journal,* XI (May, 1927), 502–12.
An experiment in French made to compare the merits of the pure direct method with the grammar-translation method.

Price, W. R. "Results of the Examinations for Approval for Oral Credit; the Licensing of Teachers of Modern Languages," *Modern Language Journal,* IV (April, 1920), 345–7.

Prokosch, E. "The Direct Method in College Examinations," *Modern Language Journal,* VI (January, 1922), 181–9.
Discusses the college entrance examination in German and suggests reforms.

Purin, C. M. "The Training of Modern Foreign Language Teachers in the Light of Investigations Conducted by the Modern Foreign Language Study," *Modern Language Journal,* XIII (October, 1928), 15–20.

Purin, C. M. *The Training of Teachers of the Modern Foreign Languages.* Vol. XIII of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Qualia, C. B. "Teaching Composition Based on Reading, *Hispania,* XII (March, 1929), 185–8.

Robert, O. T. "College Entrance Examinations in French," *Modern Language Journal,* XI (October, 1926), 17–24.

Rowland, D. "The Use of Proverbs in Beginners' Classes in the Modern Languages," *Modern Language Journal,* XI (November, 1926), 89–91.

Includes references to collections of proverbs and points out the merits of using proverbs in the classroom.

Sarafian, K. A. "Some Principles of Education Applied to the Teaching of French," *Education*, XLIX (April, 1929), 479–88.

Sparkman, C. F. "Bases and Training for Direct Interpretation in Foreign-Language Reading," *Hispania*, XII (May, 1929), 287–302.

Sparkman, C. F. "An Analysis of the Fundamental Problem of Learning to Read a Foreign Language," *Modern Language Journal*, XIII (October, 1928), 1–14.

Sparkman, C. F. "The Educational Expert and the College Teacher of Modern Languages," *School and Society*, XXVIII (November 17, 1928), 610–3.
Lists a number of unsolved problems relating to basic principles, objectives, and methods.

Stuart, H. *The Training of Modern Foreign Language Teachers for the Secondary Schools in the United States.* Teachers College Contributions to Education, No. 256. New York: Teachers College, Columbia University, 1927. Pp. x + 112.
A questionnaire study of the administration of foreign-language departments, departmental courses, and observation and practice-teaching.

Tharp, J. B. "How Shall We Section Beginning Foreign Language Classes?" *Modern Language Journal*, XIII (March, 1929), 433–49.

Tharp, J. B., and Murray, Eloise. "Grammarless Reading of Foreign Languages," *Modern Language Journal*, XII (February, 1928), 385–90.
Reports an experiment in French at the University of Illinois.

Wadepuhl, W. "Elementary German in the Colleges," *Modern Language Journal*, IX (May, 1925), 469–81.
A questionnaire study of the status of elementary German in 148 institutions, including an analysis of materials of instruction.

Warshaw, J. "Teachers' Courses in Spanish," *Modern Language Journal*, V (January, 1921), 200–9.
Suggests units of work and describes a question-box plan used in the author's class.

Waxman, S. M. "Fulminations of a College Professor, with Special Reference to Spanish," *Modern Language Journal*, IV (May, 1920), 397–406.

Welch, Edith L., and Van Horne, John. "Bibliography of Modern Language Methodology in America for 1927," *Modern Language Journal*, XII (May, 1928), 615–29.
Classification of references arranged according to journals in which published; summary of the activities of the Modern Foreign Language Study.

West, Michael. *Bi-Lingualism.* Calcutta, India: Government of India Central Publishing Branch, 1926. Pp. xiv + 354. (Issued as Occasional Report No. 13, London, High Commissioner for India).

West, Michael. *Learning to Read a Foreign Language:* An Experimental Study. New York: Longmans, Green and Co., 1926. Pp. 56.

Wheeler, C. A., and Others. *Enrollment in the Foreign Languages in Secondary Schools and Colleges of the United States.* Volume IV of the Modern Foreign Language Study. New York: Macmillan Co., 1928. Pp. xxii + 454.

Whinery, S. M., and Stradley, B. L. "Foreign Language Units at College Entrance," *Ohio Schools*, V (April, 1927), 103–5.

Williams, E. B. "The Teaching of Scientific French, German and Spanish in American Colleges," *Modern Language Journal*, XIII (March, 1929), 471–6.

Wood, B. D. *New York Experiments with New-Type Modern Language Tests.* New York: Macmillan Co., 1927. Pp. xxii + 340.

Wylie, A. T. *Enrollment in Modern Foreign Languages in Secondary Schools and Colleges in the United States.* New York: Macmillan Co., 1927.

Young, C. E., and Daus, Josephine M. "An Experiment in First Year French," *Modern Language Journal*, XII (February, 1928), 354–64.
Reports a study with control and experimental groups made at the University of Iowa for the purpose of comparing the merits of certain teaching procedures.

Canadian Committee on Modern Languages: Modern Language Instruction in Canada. Parts I and II. Toronto: University of Toronto Press, 1928. Pp. xlviii + 548, vi + 852.

The Classical Investigation Conducted by the Advisory Committee of the American Classical League, Part I. Princeton, New Jersey: Princeton University Press, 1924. Pp. 306.
Includes treatments of objectives in Latin teaching and content, and reports the results of a number of objective and questionnaire studies.

Prognosis Tests in the Modern Foreign Languages. Vol. XIV of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

Studies in Modern Language Teaching. Vol. XVII of the Modern Foreign Language Study. New York: Macmillan Co., (in press).

E. Home Economics

American Cookery. Boston Cooking School Magazine Co., 221 Columbus Avenue, Boston, Massachusetts. 10 numbers.

Journal of Home Economics. American Home Economics Association, 101 East Twentieth Street, Baltimore, Maryland. Monthly.

American Home Economics Association, 617 Mills Building, Washington, D. C.

New England Home Economics Association.

Atwater, Ruth. "A Practice House Adventure," *Journal of Home Economics,* XX (January, 1928), 81–3.

Bane, Lita. "Major Objectives in Hone Economics," *Journal of Home Economics,* XIX (March, 1927), 119–22.

Bevier, Isabel. *Home Economics in Education.* Philadelphia: J. B. Lippincott Co., 1924. Pp. 226.

Blinks, Ruetta D. "Suggestions for Teaching Food-Marketing Courses," *Journal of Home Economics,* XX (August, 1928), 554–61.

Contains bibliography for a marketing course.

Bowers, A. Margaret. "Progress in Institution Economics," *Journal of Home Economics,* XX (October, 1928), 708–10.

Branegan, Gladys A. *Home Economics Teacher Training under the Smith-Hughes Act,* 1917–1927. Teachers College Contributions to Education, No. 350. New York: Teachers College, Columbia University, 1929.

Bridge, S. H. "Home Economics Education, Its Development in Response to the Needs of the Home, the Organization of Its Subject Matter, the Preparation of Teachers and the Improvement of Teachers in Service." Unpublished Doctor's thesis, Harvard University, 1923.

Brown, Clara M. "An Analysis of the Responsibilities of the Teacher-Trainer in Home Economics," *Educational Administration and Supervision,* XII (November, 1926), 519–28.

Brown, Clara M. "The Psychological Approach," *Journal of Home Economics,* XIX (May, 1927), 245–51.

Discusses the laws of readiness, exercise, and effect in home economics.

Brown, Clara M., and Haley, Alice H. *The Teaching of Home Economics.* Boston: Houghton Mifflin Co., 1928. Pp. 396.

Bryan, Mary D. G., and Zabriskie, Alice. "Labor Hours and Costs in House and Food Departments," *Journal of Home Economics*, XXI (March, 1929), 163–70.

Cooley, Anna M., and Others. *Teaching Home Economics.* New York: Macmillan Co., 1921. Pp. xii + 556.

Coon, Beulah I. "Developing Personal Characteristics through Home Economics Teaching," *Journal of Home Economics*, XXI (May, 1929), 335–42.

Dodge, Bernice, and Henderson, Ruth. "The Supervision of Home Economics," *The Supervision of Secondary Subjects*, chapter ix. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Dozier, Carrie C. "A Nursery School's Contribution to a Foods Class," *Journal of Home Economics*, XXI (May, 1929), 332–4.

Dyer, Annie R. *The Administration of Home Economics in City Schools:* A Study of Present and Desired Practices in the Organization of the Home Economics Program. Teachers College Contributions to Education, No. 318. New York: Teachers College, Columbia University, 1928. Pp. 144.

Engle, Edna. "How Intelligent is the Girl Who Elects Home Economics?" *Journal of Home Economics*, XXI (March, 1929), 171–8.

Frear, Florence D. "Measuring Accomplishment in Elementary Clothing Courses," *Journal of Home Economics*, XXI (May, 1929), 343–5.

Good, C. V. "The High School Curriculum in Home Economics," *Journal of Home Economics*, XIX (December, 1927), 686–90. Includes a statement of objectives, constants, and electives.

Gufler, Augusta, and Dyer, Annie R. "College Entrance Credit for High School Home Economics," *Journal of Home Economics*, XX (June, 1928), 399–403.
Based on reports from 132 high-school systems.

Hypes, J. L. "Family Case Analysis in Teacher Training," *Journal of Home Economics*, XX (December, 1928), 872–8.

John, W. C. *Land-Grant College Education* 1910–1920: Part V, Home Economics. Bureau of Education Bulletin No. 29, 1925. Washington: Bureau of Education. Pp. iv + 92.

Kennedy, June. "Institutional Management Practice Work," *Journal of Home Economics*, XXI (April, 1929), 265–6.

Kolshorn, A. "Use of Objective Examinations to Determine Required Foods Work in College," *Journal of Home Economics*, XIX (April, 1927), 221–2.

Krueger, J. "Comparative Study of Home Economics Courses in Colleges," *Journal of Home Economics*, XII (June, 1920), 249–52.

The investigating committee wished to ascertain to what extent uniformity of curriculums in various departments of accepted college standing existed.

Lyford, Carrie A. *Bibliography of Home Economics.* Bureau of Education Bulletin No. 46, 1919. Washington: Bureau of Education. Pp. 104.

Covers the period, 1904–1919.

Morgan, Agnes F. "Home Economics Courses and the Higher Institutions of Learning," *School Review*, XXVIII (September, 1920), 534–47.

Discusses home-economics education and the types of courses offered at the college level.

Morgan, Agnes F. "Home Economics and the Higher Institutions of Learning," *School Review*, XXVIII (September, 1920), 534–47.

Phelps, Ethel L. "Fellowships and Scholarships Available to Women in Home Economics," *Journal of Home Economics*, XX (May and June, 1928), 328–32, 404–8.

Slay, R. J. "The Function of Science as a Service Subject," *Journal of Home Economics*, XX (January, 1928), 1–6.

Snedden, D. "The Four Goals of Home Economics Teaching," *Teachers College Record*, XXVIII (December, 1926), 387–93.

Snedden, D. "Home Economics in College and University," *School and Society*, XIII (January 15, 1921), 71–3.

Strang, Ruth. "The Housing of Students in Normal Schools and Teachers Colleges," *Journal of Home Economics*, XX (August, 1928), 562–8.

Trilling, Mabel B., and Others. *Home Economics in American Schools.* Supplementary Educational Monographs, Vol. II, No. 6. Chicago: Department of Education, University of Chicago, 1920. Pp. xii + 122.

Winchell, Cora M. "A Survey of Methods Used in Professional Courses in Home Economics," *Teachers College Record*, XXIV (March, 1923), 132–46.

A questionnaire study of content and method in home economics.

Wood, Mildred W. "Teaching Food Management to Prospective Homemakers," *Journal of Home Economics*, XIX (March, 1927), 132–5.

List of References on Home Economics. Bureau of Education Library Leaflet No. 21, 1923. Washington: Bureau of Education. Pp. 22.
Apparently covers the period, 1910–1923.

Titles of Completed Research from Home Economics Departments in American Colleges and Universities, 1918 *to* 1923. Bureau of Education Home Economics Circular No. 18, 1924. Washington: Bureau of Education. Pp. 14.
Covers the period, 1918–1923.

F. Industrial, Manual, Mechanical, and Agricultural Arts

Industrial-Arts Magazine. Bruce Publishing Co., 354 Milwaukee Street, Milwaukee, Wisconsin. Monthly.

Industrial Education Magazine. Manual Arts Press, Peoria, Illinois. Monthly.

Journal of Engineering Education. Society for the Promotion of Engineering Education, Prince and Lemon Streets, Lancaster, Pennsylvania. 10 numbers.

Printing Education. United Typothetae of America, Department of Education, 600 West Jackson Boulevard, Chicago, Illinois. Bimonthly.

Technology Review. Massachusetts Institute of Technology Alumni Association, Cambridge, Massachusetts. 8 numbers.

Vocational Guidance Magazine. Bureau of Vocational Guidance, Harvard University, Cambridge, Massachusetts. 8 numbers.

Vocationist. State Normal Training School, Oswego, New York. Quarterly.

American Association for the Advancement of Agricultural Teaching.

American Association of Agricultural College Editors.

American Institute of Chemical Engineers.

American Management Association, Industrial Relations Association, 20 Vesey Street, New York City.

Association of Land Grant Colleges and Universities.

Conference of Negro Land Grant Colleges.

Engineering Economics Foundation, 3 Joy Street, Boston, Massachusetts.

Society for the Promotion of Engineering Education.

Western Industrial Education Association.

Women's Educational and Industrial Union, 264 Boylston Street, Boston, Massachusetts.

Bach, R. F. "Industrial Arts in the Colleges," *Educational Review*, LXII (November, 1921), 317–23.

Bawden, W. T. "The Significance to the Manual Arts Program of Current Beliefs in Regard to Individual Differences," *Industrial Education Magazine*, XXX (May, 1929), 409–12.

Bennett, C. A. *The Manual Arts.* Peoria, Illinois: Manual Arts Press, 1917. Pp. 116.

An exposition of purposes, principles, and methods; consists in part of reprints from periodicals.

Broyles, W. A. *A Suggested Program for First-Year Graduate Work in Agricultural Education.* Department of Rural Education Research Series, Vol. III, No. 1. State College: Pennsylvania State College, 1926. Pp. 140.

Comstock, E. H. "Modern Educational Tendencies as Affecting the Preparation of Engineering Students," *Journal of Engineering Education*, XVIII (March, 1928), 737–49.

Cushman, Frank. "List of Publications Found Helpful in Teacher-Training Courses in Industrial Education," *Vocational Guidance and Vocational Education for the Industries*, pp. 423–35. Twenty-Third Yearbook of the National Society for the Study of Education, Part II. Bloomington, Illinois: Public School Publishing Co., 1924.

Apparently covers the period, 1901–1923.

Eaton, T. H. "A Study of Teaching in an Agricultural College," *Yearbook Number XIV of the National Society of College Teachers of Education*, pp. 29–39. Chicago: University of Chicago Press, 1925.

Edgerton, A. H. "The Supervision of Industrial Subjects," *The Supervision of Secondary Subjects*, chapter x. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Freeman, E. M. "The Agricultural Experiment Station—An Institute for Fundamental Research in Rural Affairs," *Science*, LXIX (March 29, 1929), 341–6.

Fryklund, V. C. "The Conduct of Student Teaching thru Individual Instruction; Observation, Participation, Methods," *Industrial Education Magazine*, XXX (February, 1929), 279–83.

Involves the field of industrial education and includes reproductions of assignment sheets.

Hammond, H. P. "The Summer School for Engineering Teachers, Parts I, II," *Journal of Engineering Education*, XVIII (January, 1928), 362–454.

Hammond, H. P. "The 1928 Summer School for Engineering Teachers, Part III," *Journal of Engineering Education*, XVIII (February, 1928), 521–620.

Hammond, H. P. "The Summer School for Engineering Teachers, Conclusion," *Journal of Engineering Education*, XVIII (March, 1928), 670–726.

Hammond, H. P. "The Summer School for Engineering Teachers, a Practical Step toward Improving Methods of Teaching," *Journal of Engineering Education*, XIX (September, 1928), 109–29.

Hammond, H. P., and Stoddard, G. D. "A Study of Placement Examinations," *Journal of Engineering Education*, XIX (September, 1928), 25–83.

Hatt, W. K. "Note on Adult Education in Concrete Technology," *Journal of Engineering Education*, XVIII (April, 1928), 804–6.

Holton, E. L. *A Study of the Professional Training of Teachers of Vocational Agriculture.* Federal Board of Vocational Education Bulletin, No. 122, Agricultural Series, No. 33. Washington, 1927. Pp. 68.

Jarvis, C. D. *American Agricultural Colleges.* Bureau of Education Bulletin No. 29, 1918. Washington: Bureau of Education. Pp. 126.

John, W. C. *Agricultural and Mechanical Colleges.* Bureau of Education Bulletin No. 8, 1920. Washington: Bureau of Education. Pp. 80.

Kelley, Y. "Training Industrial Teachers," *Industrial Education Magazine*, XXVIII (June, 1927), 381–4.

Lewis, M. S. "The Status of Trade and Industrial Teacher-Training in the United States in the Year 1926." Unpublished Doctor's thesis, University of California, 1928.

McKiel, H. W. "The Problem of Engineering Education in the Small College," *Journal of Engineering Education*, XVIII (February, 1928), 629–640.

Merriman, Curtis. "Standards for Good Teaching," *Journal of Engineering Education*, XVIII (May, 1928), 867–79.

Nolan, A. W. *The Case Method in the Study of Teaching with Special Reference to Vocational Agriculture.* Educational Research Monographs, No. 10. Bloomington, Illinois: Public School Publishing Co., 1927. Pp. xii + 266.
Discusses classroom exercises, farm-project visitations, and community-extension service.

Norris, F. W. "How Engineering Instructors Better Their Professional Standing," *Journal of Engineering Education*, XIX (February, 1929), 566–70.

Parker, J. C. "Wanted: An Unpractical Education," *Journal of Engineering Education*, XIX (February, 1929), 553–61.

Payne, A. F. *Administration of Vocational Education*, pp. 333–43. New York: McGraw-Hill Book Co., 1924.
A bibliography which apparently covers the period, 1886–1922.

Payne, A. F. *Methods of Teaching Industrial Subjects.* New York: McGraw-Hill Book Co., 1926. Pp. xx + 294.

Remmers, H. H. "The Measurement of Interest Differences between Students of Engineering and of Agriculture," *Journal of Applied Psychology*, XIII (April, 1929), 105–19.

Rogers, H. S. "Organization and Administration of Engineering Courses," *Journal of Engineering Education*, XVIII (June, 1928), 907–39.

Sackett, R. L. "The Changing Emphasis in Engineering Education," *Journal of Engineering Education*, XIX (September, 1928), 9–24.

Slay, R. J. *The Development of the Teaching of Agriculture in Mississippi.* Teachers College Contributions to Education, No. 310. New York: Teachers College, Columbia University, 1928. Pp. 192.
With special emphasis on historical development and curriculum.

Snedden, D., and Others. *Reconstruction of Industrial Arts Courses.* New York: Bureau of Publications, Teachers College, 1927. Pp. vi + 144.
Discusses purposes and content of industrial arts in secondary education with special reference to aims and objectives in the junior high school.

Stone, W. A., and Knoblauch, George. "The Equipment and Organization of a General Metal Shop," *Industrial-Arts Magazine*, XVIII (May, 1929), 169–72.

Strickler, Fred. *The Training and Experience of* 480 *Industrial Arts Teachers.* New York: Teachers College, Columbia University, 1927. Pp. 116.

Strong, E. K., Jr. "Interests of Engineers: A Basis for Vocational Guidance," *Personnel Journal,* VII (April, 1929), 411–54.

Thomas, Evan. "The Engineer's Arithmetic," *Journal of Engineering Education,* XVIII (May, 1928), 891–903.

True, A. C. "The School of Agriculture," *Higher Education in America,* Part I, chapter iii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Whitney, G. D. "Instruction Based on the Vocations," *University of Pittsburgh School of Education Journal,* IV (September–October, 1928), 21–4, 30.
Discusses selection, organization, and teaching of courses and units with special reference to the vocational subjects.

Wickenden, W. E. "The School of Engineering," *Higher Education in America,* Part I, chapter vii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Willey, G. S. "Psychological Principles Applied to the Teaching of Agriculture." Unpublished Doctor's thesis, University of Wisconsin, 1926.

Woodward, C. R. *The Curriculum of the College of Agriculture.* Bureau of Education Bulletin No. 40, 1920. Washington: Bureau of Education. Pp. 86.

"Motion Pictures for Agricultural Education," *School and Society,* XII (September, 1920), 224.
A statement regarding the use of motion pictures by various extension departments, colleges, universities, etc.

Teacher Training in Agriculture: Status, Development, and Methods in the Field of Teacher Training. Bureau of Education Bulletin No. 94, 1924, Agricultural Series, No. 20. Washington: Bureau of Education.

G. Mathematics

Mathematics Teacher. National Council of Teachers of Mathematics, 425 West One Hundred and Twenty-Third Street, New York City. 8 numbers.

School Science and Mathematics. Mount Morris, Illinois. 9 numbers.

American Mathematical Society, 501 West One Hundred and Sixteenth Street, New York City.

Association of Teachers of Mathematics of New England.
Association of Teachers of Mathematics in the Middle States and Maryland.
Central Association of Science and Mathematics Teachers.
Mathematical Association of America.
National Committee on Mathematical Requirements.
National Council of Teachers of Mathematics.

Archibald, R. C. "The Training of Teachers of Mathematics," *Reorganization of Mathematics in Secondary Education*, pp. 429–508. Mathematics Association of America, 1923.

Clark, J. R. "The Supervision of Mathematics," *The Supervision of Secondary Subjects*, chapter iii. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Couillard, B. C. "Mathematical Processes in Introductory Calculus and Analytical Geometry," *School Science and Mathematics*, XXVI (December, 1926), 921–30.

Fulwider, J. H. "Teaching Students to Chart," *School Review*, XXX (May, 1922), 378–81.

Georges, J. S. "A Study of Procedures Used in the Determination of Objectives in the Teaching of Mathematics," *Mathematics Teacher*, XXII (March, 1929), 156–65.

Georges, J. S. "Functional Thinking as an Objective of Mathematical Education," *School Science and Mathematics*, XXIX (May, 1929), 508–15; XXIX (June, 1929).

Good, C. V. "The Mathematics and Science Curricula in Junior and Senior High Schools," *School Science and Mathematics*, XXVII (November, 1927), 863–9.
Includes a statement of objectives, constants, and electives.

Hassler, J. O. "The Use of Mathematical History in Teaching," *Mathematics Teacher*, XXII (March, 1929), 166–71.

Hoy, E. A. "Junior-College Mathematics in California," *School Review*, XXXVI (May, 1928), 370–3.
Lists the mathematics courses offered in thirty-three junior colleges in California.

Jablonower, Joseph. "Opportunities for Transfer Making in Elementary Mathematics," *Teachers College Record*, XXX (May, 1929), 808–18.

Kemper, A. J. "The Cultural Value of Mathematics," *Mathematics Teacher*, XXII (March, 1929), 127–45.

Martin, E. J. "Mathematics in Industry and Research," *Mathematics Teacher*, XXII (March, 1929), 172–7.

Noble, C. S. "The Teaching of Mathematics in German Secondary Schools," *California Quarterly of Secondary Education*, III (January, 1928), 115–24.
Describes types of schools, curriculum, and method.

Reeve, W. D. "New-Type Tests in Teaching Mathematics," *Teachers College Record*, XXIX (May, 1928), 693–703.
Discusses general types of tests, achievement tests, criteria for construction of tests, and illustrations of new-type tests in mathematics.

Schoonmaker, Hazel E. "The Value of the Hotz Algebra Scales in Sectioning College Classes in Freshmen Mathematics," *School Science and Mathematics*, XXVIII (November, 1928), 880–4.
Reports the results of an investigation.

Schorling, Raleigh. *A Tentative List of Objectives in the Teaching of Junior High School Mathematics, with Investigations for the Determining of Their Validity.* Ann Arbor, Michigan: George Wahr, 1925. Pp. 140.

Shaaf, W. L. *A Course for Teachers of Junior High School Mathematics.* Teachers College Contributions to Education, No. 313. New York: Teachers College Columbia University, 1928. Pp. 160.

Smith, D. E., Upton, C. B., Reeve, W. D., Breckenridge, W. E., and Ginsburg, J. "A Brief List of Mathematical Books Suitable for Libraries in High Schools and Normal Schools," *Teachers College Record*, XXVI (April, 1925), 679–90.

Smith, E. R. "Mathematics in the School of the Future," *Teachers College Record*, XXX (May, 1929), 795–807.

Thorndike, E. L. *The Psychology of Arithmetic.* New York: Macmillan Co., 1922. Pp. 314.

Thorndike, E. L., and Others. *The Psychology of Algebra.* New York: Macmillan Co., 1923. Pp. 484.

Tripp, M. O. "Collegiate Courses in Mathematics for Prospective High School Teachers," *School Science and Mathematics*, XXIII (May, 1923), 482–8.

Young, J. W. *The Reorganization of Mathematics in Secondary Education*, Part I. Boston: Houghton Mifflin Co., 1927. Pp. xvi + 182.
Originally published in 1923.

Significant Changes and Trends in the Teaching of Mathematics throughout the World since 1910. Fourth Yearbook of the National Council of Teachers of Mathematics. New York: Teachers College, Columbia University, 1929. Pp. x + 186.

H. Music

Etude. Theodore Presser Co., Philadelphia, Pennsylvania. Monthly.

Music and Youth. Rumford Press, 10 Ferry Street, Concord, New Hampshire. 10 numbers.

Music Supervisors Journal. Chapel Hill, North Carolina.

Official Bulletin. National Federation of Music Clubs, 1200 Columbia Terrace, Peoria, Illinois.

School Music. 729 Franklin Street, Keokuk, Iowa. Bimonthly during school year.

Eastern Music Supervisors Conference.

Juilliard Musical Foundation, Frederick A. Juilliard, Tuxedo Park, New York.

Music Teachers National Association.

National Bureau for the Advancement of Music, 45 West Forty-Fifth Street, New York City.

National Conference of Music Supervisors.

National Federation of Music Clubs.

National School Band Association.

Southern Conference for Music Education.

Brennan, F. M. "The Relation between Musical Capacity and Performance," *Psychological Monographs*, Vol. XXXVI, No. 1, pp. 190–248. Princeton, New Jersey: Psychological Review Co., 1926.

Dykema, P. W. "Annual Survey of Textbooks and Related Publications in Music," *Journal of Educational Method*, VII (April, 1928), 314–21.

Dykema, P. W. "The Colleges and Music Credit," *Journal of Education*, CIX (January 28, 1929), 90–1.
Reports a questionnaire study of 467 institutions; includes data concerning entrance credit allowed for music and credit for music on degrees.

Gehrkens, K. W. "Success and Failure in a Music Supervisors' Training Course," *School Music*, XXX (January-February, 1929), 9.
A list of reasons for failure.

Good, C. V. "The Music Curriculum in Secondary Schools," *American Educational Digest*, XLVIII (December, 1928), 176, 178.
Includes a statement of objectives, constants, and electives.

Gordon, E. B. "The Supervision of Music," *The Supervision of Secondary Subjects*, chapter xii. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Kirk, J. R. "Preparation of Music Supervisors—Shall They Have a Balanced College Education?" *National Education Association Addresses and Proceedings*, 1921, pp. 5091–13.

Kwalwasser, J. "Tests and Measurements in Music," *Psychological Bulletin*, XXV (May, 1928), 284–301.
Includes twenty-eight references.

Lauer, A. R. "Science Applied to Problems of Musical Instruction," *Education*, XLIX (December, 1928), 226–35.
Refers to a number of investigations and includes a bibliography of sixteen references.

McConathy, Osbourne, and Others. *Present Status of Music Instruction in Colleges and High Schools*, 1919–20. Bureau of Education Bulletin No. 9, 1921. Washington: Bureau of Education. Pp. 54.

Manchester, A. L. "Practical Music and the College Curriculum," *Music Quarterly*, VII (April, 1921), 252–60.

Mursell, J. L. *Principles of Musical Education*. New York: Macmillan Co., 1927. Pp. 300.

Seashore, C. E. *The Present Status of Research in the Psychology of Music at the University of Iowa*. University of Iowa Studies, Series on Aims and Progress of Research, Vol. II, No. 4. Iowa City, Iowa: University of Iowa, 1928. Pp. 30.
Includes a valuable bibliography.

Seashore, C. E. *The Psychology of Musical Talent*. New York: Silver, Burdett and Co., 1919. Pp. 288.

Stanton, Hazel M. "Measuring Musical Talent," *Personnel Journal*, VII (December, 1928), 286–92.
Describes use and results of the Seashore Musical Aptitude Tests at the University of Rochester.

Surette, T. W. "Music in the Liberal College," *The Effective College*, chapter xvi. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

Swisher, W. S. *Psychology for the Music Teacher*. Boston: Oliver Ditson Co., 1927. Pp. 78.

Zanzig, Augustus. "A National Music Study," *Play-Ground*, XXIII (April, 1929), 9–11.
Describes the work of the Bureau of Community Music of the Playground and Recreation Association of America.

"On the Subject of Teaching," *Etude*, XLV (April, 1927), 302–3.

I. Physical and Health Education

American Child. National Child Labor Committee, 215 Fourth Avenue, New York City. Monthly.

American Journal of Public Health. American Public Health Association, 372 Broadway, Albany, New York. Monthly.

American Physical Education Review. American Physical Education Association, G, Highland Station, Springfield, Massachusetts. 10 numbers.

Child Health Bulletin. American Child Health Association, 370 Seventh Avenue, New York City. Irregular.

Home Economist and American Food Journal. 468 Fourth Avenue, New York City. Monthly.

How to Live. Life Extension Institute, Inc., 25 West Forty-Third Street, New York City.

Hygeia. American Medical Association, 535 North Dearborn Street, Chicago, Illinois.

Journal of the Outdoor Life. 370 Seventh Avenue, New York City.

Journal of Physical Education. National Council of the Young Men's Christian Association, Physical Department, Cornwall, New York. 10 numbers.

Mental Hygiene. 372–74 Broadway, Albany, New York. Quarterly.

Mind and Body. Mind and Body Publishing Co., New Ulm, Minnesota. 10 numbers.

Playground. Playground and Recreation Association of America, 315 Fourth Avenue, New York City. Monthly.

Public Health Nurse. 372–74 Broadway, Albany, New York. Monthly.

Safety Education—A Magazine of the Good Adventure. Educational Division, National Safety Council, One Park Avenue, New York City.

American Child Health Association, 370 Seventh Avenue, New York City.

American Nurses Association, 370 Seventh Avenue, New York City.

American Physical Education Association, G, Highland Station, Springfield, Massachusetts.

American Public Health Association, 370 Seventh Avenue, New York City.

American Student Health Association.

Eastern Society of the Association of Directors of Physical Education for Women in Colleges and Universities.

Middle West Society of Physical Education.

Mid-West Society of Directors of Physical Education for Women.

National Amateur Athletic Federation of America, Men's Division, 25 Broadway, New York City.

National Amateur Athletic Federation of America, Women's Division, 2 West Forty-Sixth Street, New York City.

National Collegiate Athletic Association.

National Federation of State High School Athletic Associations.

National Health Council, 370 Seventh Avenue, New York City.

National Organizations for Public Health Nursing, 370 Seventh Avenue, New York City.

National Society of Directors of Physical Education for Women in Colleges and Universities.

Society of Directors of Physical Education in Colleges.

Western Society of Directors of Physical Education for Women in Colleges and Universities.

Affleck, G. B. "Selected Bibliography of Physical Training and Hygiene," *American Physical Education Review*, XXXIII (October, 1928), 520–32.
Covers the period May-December, 1927.

Affleck, G. B. "Selected Bibliography of Physical Training and Hygiene, January–April, 1928," *American Physical Education Review*, XXXIV (April, 1929), 218–26.

Allen, F. C. "Physical Education and Athletics," *Higher Education in America*, Part II, chapter vii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Beard, J. H. "The Need of a Revaluation of Health Education," *School and Society*, XXVII (June 16, 1928), 703–9.

Bliss, J. G. "Progression in Physical Education Activities." Unpublished Doctor's thesis, New York University, 1926.

Bovard, J. F., and Cozens, F. W. *Tests and Measurements in Physical Education* 1861–1925. University of Oregon Physical Education Series, Vol. 1, No. 1. Eugene, Oregon: University of Oregon, 1926. Pp. 94.

Burkard, W. E. *An Analysis of Education Objectives and Outcomes in the Field of Health Education*. Philadelphia: University of Pennsylvania, 1927. Pp. 268.

Cairns, Laura. "Health Instruction by Means of Committees," *Educational Administration and Supervision*, XIII (September, 1927), 407–10.

Report of an experiment in hygiene classes at the University of California in which the class was divided into groups of about six members each.

Camp, Marjorie. "Camp Leadership Courses in Universities," *American Physical Education Review*, XXXIV (March, 1929), 160–6.

Chambers, M. M. *Every Man a Brick!* The Status of Military Training in American Universities. Bloomington, Illinois: Public School Publishing Co., 1927. Pp. 100.

Comstock. A. L. "Health and the College Routine," *School and Society*, XX (October 11, 1924), 450–4.

Cook, R. J. "Medical and Surgical Supervision of Competitive Athletics," *American Physical Education Review*, XXIX (September, 1924), 400–7.

Cozens, F. W. "The Measurement of General Athletic Ability in College Men," *American Physical Education Review*, XXXIII (December, 1928), 634–8.
Discusses the construction of the tests.

Cozens, F. W. "The Measurement of General Athletic Ability in College Men," *Journal of Educational Research*, XIX (April, 1929), 313–4.
Abstract of a Doctor's dissertation, University of Oregon, 1928.

Dolfinger, E. "Improvement of Teacher Training for Health Education in the Schools," *National Educational Association Addresses and Proceedings*, 1925, pp. 278–81.

Dunlap, Knight. "Athletics and the Student Body," *American Physical Education Review*, XXXIV (March, 1929), 147–50.

Elliott, Ruth. *The Organization of Professional Training in Physical Education in State Universities.* Teachers College Contributions to Education, No. 268. New York: Teachers College, Columbia University, 1927. Pp. viii + 68.

Emerson, W. R. P. "Health Diagnosis in College," *Survey*, LV (January 15, 1926), 478–9.

Griffith, C. R. *Psychology and Athletics.* New York: Charles Scribner's Sons, 1928. Pp. 282.

Hawkes, H. E. "Physical Education in the Training of College Men," *American Physical Education Review*, XXX (April, 1925), 199–202.

Hutchinson, M. E. "College Athletics and Scholarship," *School and Society*, XXIX (February 2, 1929), 151–2.
Includes data on forty athletes and sixty-seven non-athletes.

Johnson, Georgia B. *Organization of the Required Physical Education for Women in State Universities.* Teachers College Contributions to Education, No. 253. New York: Teachers College, Columbia University, 1928. Pp. viii + 172.

Keene, C. H. "Health and Education in the University," *Educational Administration and Supervision,* XI (February, 1925), 92–100.

Keene, C. H. "Student Health Program Exclusive of Classroom Instruction," *American Journal of Public Health,* XVI (October, 1926), 992–7.

Kennedy, C. W. *College Athletics.* Princeton, New Jersey: University Press, 1925. Pp. 72.

Kirkland, J. H. "Student Health Program at Dartmouth," *Educational Record,* VIII (April, 1927), 129–38.

Lehman, H. C. "Measuring the Results of Gymnasium Instruction," *American Physical Educational Review,* XXXII (February, 1927), 108–16.

Lehman, H. C., and Witty, P. A. *The Psychology of Play Activities.* New York: A. S. Barnes and Co., 1927. Pp. 242.

Lehman, H. C., and Witty, P. A. "Sex Differences in Vigorous Bodily Activity," *Journal of Educational Method,* VIII (March, 1929), 322–9.

Lerrigo, M. O. *Health Problem Sources.* Teachers College Contributions to Education, No. 224. New York: Teachers College, Columbia University, 1926. Pp. 152.
An analysis of seven groups of sources made to discover a list of health problems useful to those concerned with the selection of subject matter in the field of health education.

Lowman, C. L., and Others. *Corrective Physical Education for Groups:* A Textbook of Organization, Theory, and Practice. 1928. Pp. 536.

McCloy, C. H. "Methods of Research in Physical Education," *American Physical Education Review,* XXXIV (February, 1929), 10–6.

Metcalf, H. G. "The Status of Special Adaptive Corrective Procedure in the Larger Colleges and Universities," *American Physical Education Review,* XXXIV (April, 1929), 206–9.

Palmer, Irene. "New Type Examinations in Physical Education," *American Physical Education Review,* XXXIV (March, 1929), 151–6.

Panzer, Henry. *A Teacher's Manual of Physical Education.* New York: A. S. Barnes and Co., 1928. Pp. 238.

Perrin, Ethel. "The Supervision of a Health Program," *The Supervision of Secondary Subjects*, chapter xiii. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Ready, Marie M. *Physical Education in American Colleges and Universities.* Bureau of Education Bulletin No. 14, 1927. Washington: Bureau of Education. Pp. vi + 52.
A study of the status of physical education, military training, and hygiene in 182 American colleges and universities based on an analysis of catalogues followed up by a questionnaire.

Remp, M. "Comparison of the Scholastic Records of Athletes and Non-Athletes,'" *American Physical Education Review*, XXX (April, 1925), 187–92.

Rogers, F. R. *Physical Capactiy Tests in the Administration of Physical Education.* Teachers College Contributions to Education, No. 173. New York: Teachers College, Columbia University, 1925. Pp. 94.

Rogers, F. R. *Tests and Measurement Programs in the Redirection of Physical Education.* New York: Bureau of Publications, Teachers College, Columbia University, 1927. Pp. 166.

Rogers, J. E. "Next Steps in Physical Education," *School Executives Magazine*, XLVIII (April, 1929), 345–7, 372.

Rood, Elma. "School Nursing as a Career," *Journal of the National Education Association*, XVIII (May, 1929), 147–9.

Savage, H. J. "College Athletics and Scholarship," *Twenty-Second Annual Report*, pp. 49–65. New York: Carnegie Foundation for the Advancement of Teaching, 1927.

Saxman, E. J. *Students' Use in Leisure Time of Activities Learned in Physical Education in State Teachers Colleges.* Teachers College Contributions to Education, No. 217. New York: Teachers College, Columbia University, 1926. Pp. 90.

Scott, H. A. *A Personnel Study of Directors of Physical Education for Men in Colleges and Universities.* Teachers College Contributions to Education, No. 339. New York: Teachers College, Columbia University, 1929. Pp. 90.

Stafford, C. T. *Preventive and Corrective Physical Education.* New York: A. S. Barnes and Co., 1928. Pp. 328.

Steen, F. H., and Huntington, E. C. "Intelligence, Introversion, and Psycho-Neurotic Traits in Relation to Choice of Sports," *American Physical Education Review*, XXXIV (April, 1929), 216.

Stewart, Isabel M. "Some Comparisons Between Nursing Education and Other Systems of Education," *Teachers College Record*, XXIX (March, 1928), 515–26.

Points out some lessons general education may learn from nursing education.

Storey, T. A. "Health Examination, a Prerequisite to Matriculation in College," *American Physical Education Review*, XXXI (May, 1926), 812–4.

Strang, Ruth. *Subject Matter in Health Education.* Teachers College Contributions to Education, No. 222. New York: Teachers College, Columbia University, 1926. Pp. 108.
An analysis of courses of study and textbooks.

Sundwall, J. "Health and Housing," *Higher Education in America*, Part II, chapter vi. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Sundwall, J. "Teaching of College Hygiene," *American Journal of Public Health*, XVII (January, 1927), 48–57.

Swalwell, Belva. *Problem Method of Teaching Hygiene and Sanitation.* Ann Arbor, Michigan: Edwards Brothers, 1926.

Waymen, A. R. "Scheme for Testing and Scoring the Physical Efficiency of College Girls," *American Physical Education Review*, XXVIII (November, 1923), 415–20.

Williams, J. F. *The Principles of Physical Education.* Philadelphia: W. B. Saunders Co., 1927. Pp. xxvi + 482.

Winslow, C. E. A., and Williamson, Pauline B. *The Laws of Health and How to Teach Them.* New York: Charles E. Merrill Co., 1925. Pp. xiv + 354.
A treatment of objectives, subject matter, and method.

Wood, T. D., and Cassidy, Rosalind F. *The New Physical Education.* New York: Macmillan Co., 1927. Pp. xiv + 458.

Wood, T. D., and Lerrigo, M. O. *Health Behavior.* Bloomington, Illinois: Public School Publishing Co., 1927. Pp. 150.

Wootten, Kathleen W. "Special Sex Instruction Given to Students of a Southern Normal College," *Journal of Social Hygiene*, XIV (October, 1928), 407–12.
Outline of a college course in sex education for girls.

Young, B. E. "Report of the Commission on College Athletics," *Association of American Colleges Bulletin*, XV (March, 1929), 153–61.

Professional Training in Physical Education. Bureau of Education, Physical Education Series, No. 9, 1928. Washington: Bureau of Education. Pp. iv + 46.
Report of a conference arranged by the United States Bureau of Education and held in Washington, D. C., March 30, 1927.

J. Religious, Moral, and Character Education

Catholic Educational Review. Catholic Education Press, Washington D. C. 10 numbers.

Catholic School Interests. 178 Kenilworth Avenue, Elmhurst, Illinois. Monthly.

Catholic School Journal. 445 Milwaukee Street, Milwaukee, Wisconsin. 10 numbers.

Character Builder. 1627 Georgia Street, Los Angeles, California. 10 numbers.

Christian Education. Council of Church Boards of Education in the United States, 111 Fifth Avenue, New York City. 9 numbers.

Christian Education Magazine. Board of Education of the Methodist Episcopal Church, South, Nashville, Tennessee. Quarterly.

Christian Educator. Board of Education, Department of Educational Institutions for Negroes of the Methodist Episcopal Church, 740 Rush Street, Chicago, Illinois. Quarterly.

Christian Student. Board of Education of the Methodist Episcopal Church, 150 Fifth Avenue, New York City. Quarterly.

Church School Journal. Methodist Book Concern, Cincinnati, Ohio. Monthly.

Citizenship through Character Development. Harvard School, Charlestown, Massachusetts.

Information Service. Department of Research and Education, Federal Council of the Churches of Christ in America, 105 East Twenty-Second Street, New York City.

International Journal of Religious Education. 1516 Mallers Building, 5 South Wabash Avenue, Chicago, Illinois. Monthly.

North American Teacher. Box 2248, Boston, Massachusetts.

Religious Education. Religious Education Association, 308 North Michigan Avenue, Chicago, Illinois. 10 numbers.

American Catholic Philosophical Association.

Association of American Colleges and High Schools of the Society of Jesus.

Association of Directors and Ministers of Religious Education.

Association of Teachers of Religion.

Character Education Institution, 3770 McKinley Street, Washington, D. C.

Council of Church Boards of Education in the United States.

Franciscan Educational Association.

International Council of Religious Education.
National Benedictine Educational Association.
National Catholic Educational Association, 1651 East Main Street, Columbus, Ohio.
National Catholic Welfare Conference, 1312 Massachusetts Avenue, Washington, D. C.
National Council on Religions in Higher Education.
National Lutheran Educational Conference.
Northern Baptist Educational Society.
Presbyterian College Union.
Presbyterian Education Association of the South.
Religious Education Association, 308 North Michigan Avenue, Chicago, Illinois.
Southern Baptist Education Association.

Bagley, W. C. "The Crucial Problem of the Next Decade," *Journal of the National Education Association*, XVIII (April, 1929), 107–8.
A discussion of character education.

Bagley, W. C. "Some Handicaps of Character Education in the United States," *Educational Administration and Supervision*, XV (April, 1929), 241–9.

Bain, R. "Religious Attitudes of College Students," *American Journal of Sociology*, XXXII (March, 1927), 762–70.
An investigation conducted by the department of sociology at the University of Washington; the study included religious, domestic, educational, political, and economic questions.

Betts, G. H., and Hawthorne, M. O. *Method in Teaching Religion*. New York: Abingdon Press, 1925. Pp. 488.

Boynton, P. L. "A Study of the Relationship between the Intelligence and Moral Judgements of College Students." Unpublished Doctor's thesis, George Peabody College for Teachers, 1927.

Burton, E. D. "Religion and Education," *Journal of Religion*, IV (November, 1924), 561–75.

Case, Adelaide. "Newer Methods of Teacher Training," *International Journal of Religious Education*, V (December, 1928), 13–4, 42–3.

Charters, W. W. *The Teaching of Ideals*. New York: Macmillan Co., 1927. Pp. xiv + 372.

Cheverton, C. F. "Criteria for the Evaluation of Curriculum Material for the Religious Education of the Adult Mind." Unpublished Doctor's thesis, Boston University, 1918.

Coffin, J. H. "Experiment in College Religious Education," *Religious Education*, XX (June, 1925), 234–9.

Cronbach, Abraham. "The Psychology of Religion," *Psychological Bulletin*, XXV (December, 1928), 701–19.
A review of the literature which includes a bibliography of 140 references extending from January 1, 1926, to near date of publication.

Day, Mary B., Arrowsmith, Mary N., and Stevenson, Idabelle. "An Annotated Bibliography on Safety Education," *The Present Status of Safety Education*, pp. 355–66. Twenty-Fifth Yearbook of the National Society for the Study of Education, Part I. Bloomington, Illinois: Public School Publishing Co., 1926.
Covers the period, 1918–1925.

Durkin, Sister M. A. *The Preparation of the Religious Teacher.* Washington: Catholic University, 1926. Pp. 96.

Griffin, Helen C. "Changes in the Religious Attitudes of College Students," *Religious Education*, XXIV (February, 1929), 159–64.
A questionnaire study of thirty-three seniors at Reed College.

Harper, W. A. *Character Building in Colleges.* New York: Abingdon Press, 1928. Pp. 238.

Harper, W. A. "The College and Its Techniques for Character Building," *Religious Education*, XXIV (March, 1929), 263–72.
Discusses possibilities in the form of credit courses, college spirit, official personnel, college activities, administratively maintained activities, educational guidance, and the laboratory.

Hartshorne, Hugh, and May, M. A. *Studies in Deceit.* Teachers College, Columbia University, Studies in the Nature of Character, Vol. I. New York: Macmillan Co., 1928. Pp. 720.

Hawkes, H. E. "Religion in a Liberal Education," *Educational Record*, VIII (January, 1927), 28–39.

Hogan, R. M. "The Technique of Activity and Trait Analysis Applied to Y.M.C.A. Executive Secretaries as a Basis for Curricular Materials." Unpublished Doctor's thesis, University of Chicago, 1927.

Holt, A. E. "Case Method and Teaching at Chicago Theological Seminary," *Religious Education*, XXIII (March, 1928), 207–12.
Applies the case-study method to religious education.

Houston, William. *The Church at the University:* Her Opportunities, Obligations and Methods. Columbus, Ohio: Westminster Foundation of Ohio, 1926. Pp. 116.

Jordan, D. S. "University and Moral Teaching," *School and Society*, XX (December 20, 1924), 793–4.

Kelly, R. L. "Academic Credits in Bible Study and Religious Education," *Bulletin of The Association of American Colleges*, XI (November, 1925), 301–12.

Klyver, F. H. *The Supervision of Student-Teachers in Religious Education.* Teachers College Contributions to Education, No. 198. New York: Teachers College, Columbia University, 1926. Pp. 186.

Mary, Sister. *Research Findings in the Moral Development of Children.* Catholic University Educational Research Bulletin, Vol. I, No. 6. Washington: Catholic Education Press, 1925. Pp. 32.

Mathews, S. "Agencies for Promoting Religion in the Colleges," *Journal of Religion*, IV (May, 1924), 293–305.

May, M. A. "What We Know about Character Education," *Association of American Colleges Bulletin*, XIV (April, 1928), 187–97.

Presents certain of the results of the author's experiments.

May, M. A., Hartshorne, Hugh, and Welty, Ruth E. "Personality and Character Traits," *Psychological Bulletin*, XXV (July, 1928), 422–43.

Includes a bibliography of 146 references published in 1927.

Miao, C. S. *Bibliography of Religious Education for Schools and Colleges.* China Christian Educational Association Bulletin, No. 13, 1926. Shanghai: China Christian Educational Association. Pp. 72.

Covers the period, 1895–1926.

Miao, C. S. "Religious Education of Students in Christian Colleges and Universities in China," *International Review of Missions*, XIV (January, 1925), 100–7.

Reeves, F. W., and Russell, J. D. *College Organization and Administration.* Indianapolis, Indiana: Board of Education Disciples of Christ, 1929. Pp. 316.

Based on surveys of church colleges.

Robbins, C. L. *The Will to Work:* A Study in Character Education. Chicago: Row, Peterson and Co., 1928. Pp. 222.

Searles, H. L. *The Study of Religion in State Universities.* University of Iowa Studies, Studies in Character, Vol. I, No. 3. Iowa City, Iowa: University of Iowa, 1927. Pp. 92.

Shuttleworth, F. K. *The Measurement of the Character and Environmental Factors Involved in Scholastic Success.* University of Iowa Studies, Studies in Character, Vol. I, No. 2. Iowa City, Iowa: University of Iowa, 1927. Pp. 80.

Starbuck, E. D., and Shuttleworth, F. K. *A Guide to Literature for Character Training,* Vol. I. New York: Macmillan Co., 1928. Pp. 390.

Symonds, P. M. *The Nature of Conduct.* New York: Macmillan Co., 1928. Pp. xii + 346.

Uphaus, W. E., and Hipps, M. T. *Undergraduate Courses in Religion at Denominational and Independent Colleges and Universities of America.* National Council on Religion in Higher Education Bulletin, No. 6. Ithaca, New York: Cayuga Press, 1926. Pp. 94.

Valentine, P. F. *The Psychology of Personality.* New York: D. Appleton and Co., 1927. Pp. 394.

Watson, G. B. *Experimentation and Measurement in Religious Education.* New York: Association Press, 1927. Pp. xii + 296.

Includes a list of 140 pertinent problems for experimentation in the field of religious education.

Wilkinson, W. J. "Religious Education in Non-Catholic Colleges and Catholic Colleges." Unpublished Doctor's thesis, Univeristy of California, 1927.

"College and Religion," *Scribner's Magazine,* LXXI (May, 1922), 573–6.

"Religion in the Effective College," *The Effective College,* chapters xix-xxi. Edited by R. L. Kelly. New York: Association of American Colleges, 1928.

"Research Projects in Religious Education," *Religious Education,* XXIII (April, 1928), 376–87.

A list of studies carried forward in the field of religious education, including a considerable number of theses.

Undergraduate Instruction in Religious Education in the United States. Chicago: Religious Education Association, 1928.

A cooperative survey which indicates that 172 institutions in the United States offer instruction in religious education to undergraduates.

K. Science

Current Science. Looseleaf Education, Inc., 40 South Third Street, Columbus, Ohio.

General Science Quarterly. W. G. Whitman, Salem, Massachusetts. Quarterly.

Journal of Chemical Education. 225 Church Street, Easton, Pennsylvania. Monthly.

Nature and Science Education Review. American Nature Association, 1214 Sixteenth Street Northwest, Washington, D. C.

Nature Magazine. American Nature Association, 1214 Sixteenth Street Northwest, Washington, D. C. Monthly.

School Science and Mathematics. Mount Morris, Illinois. 9 numbers.

Science. Science Press, Grand Central Terminal, New York City. Weekly.

Scientific Monthly. Science Press, Grand Central Terminal, New York City. Monthly.

American Association for the Advancement of Science, Washington, D. C.

American Chemical Society.

American Chemical Society, Division of Chemical Education.

American Chemical Society, Senate of Chemical Education.

American Institute of Chemical Engineers.

Botanical Society of America.

Central Association of Science and Mathematics Teachers.

Eastern Association of Physics Teachers.

Geological Society of America.

National Academy of Sciences, B and Twenty-First Streets, Washington, D. C.

New England Association of Chemistry Teachers.

Barker, J. W., and Frazier, R. H. "Educational Processes as Employed in the Department of Electrical Engineering at the Massachusetts Institute of Technology," *Journal of Engineering Education*, XIX (March, 1929), 619–37.

Beauchamp, W. L. "A Preliminary Experimental Study of Technique in the Mastery of Subject-Matter in Elementary Physical Science," *Studies in Secondary Education, I*, pp. 47–87. Supplementary Educational Monographs, No. 24. Chicago: Department of Education, University of Chicago, 1923.

Bless, A. A. "The Teaching of Physics," *School Science and Mathematics*, XXVIII (May, 1928), 483–8.
Discusses the treatment and scope of subject matter in physics as found in forty high-school and college texts.

Bowers, W. G. "The Advantages of Laboratory Work in the Study of Elementary Chemistry," *Journal of Chemical Education*, I (March, 1924), 207.

Bowers, W. G. "Grouping Students for Work in the Chemical Laboratory," *Education*, XLV (March, 1925), 429–37.
Advocates grouping students in pairs in laboratory work to secure best results.

Bowers, W. G. "How to Tell Students How to Study Chemistry," *School Science and Mathematics*, XXVII (June, 1927), 585–9.

Bowers, W. G. "The Importance of the Laboratory Work as Compared with Textbook Work, etc., in the Study of Chemistry," *School Science and Mathematics*, XXIV (June, 1924), 606–13.

Bowers, W. G. "Mathematical Problems in Elementary Chemistry," *School Science and Mathematics*, XXVIII (December, 1928), 975–80.
States the views of various authors and the practices in certain textbooks.

Brayton, H. R. "Creating Interest in Freshman Chemistry," *Journal of Chemical Education*, V (April, 1928), 445–7.

Brownell, H., and Wade, F. B. *The Teaching of Science and the Science Teacher*. New York: Century Co., 1925. Pp. xii + 322.
Discusses laboratory work, textbooks, class management, projects, examinations, teachers' training and work, general science, biology, physics, chemistry, and nature study.

Buehler, C. A. "The One College Course for Freshmen," *Journal of Chemical Education*, VI (March, 1929), 510–3.

Burr, F. F. "Specialization in the Teaching of Science," *Science*, LIV (November 11, 1921), 464–5.

Burt, C. Pauline. "The First-Year College Course in Chemistry for Students Who Have Studied the Subject before Entrance," *Journal of Chemical Education*, V (August, 1928), 990–3.

Caldwell, O. W. "Some Next Steps in Science Teaching," *School Science and Mathematics*, XXIX (January, 1929), 9–20.
Summarizes trends, cities important publications, and indicates needs.

Carpenter, W. W. *Certain Phases of the Administration of High School Chemistry.* Teachers College Contributions to Education, No. 191. New York: Teachers College, Columbia University, 1925. Pp. viii + 74.

Colton, H. S. "Drawing a Factor in the Training of Students in a Course in General Zoology," *School and Society*, XXIV (October 9, 1926), 463–4.

Colton, H. S. "Segregation of Zoology Students on the Basis of Ability," *School and Society*, XX (August 23, 1924), 254–6.

Cornog, Jacob, and Stoddard, G. D. "The Chemistry Training of High-School and College Students," *Journal of Chemical Education*, VI (January, 1929), 85–92.

Currier, A. J. "How Are Teachers Being Trained in College for Teaching High-School Chemistry?" *Journal of Chemical Education*, V (June, 1928), 743–7.

Curtis, F. D. *A Digest of Investigations in the Teaching of Science in the Elementary and Secondary Schools.* Philadelphia: P. Blakison's Son and Co., 1926. Pp. x + 342.
Presents digests of seventy studies with a brief statement of the problems involved, and the technique employed by the investigator, and a summary of the findings.

Dodds, K. D. "New-Type versus Old-Type Tests: A Comparison," *Journal of Chemical Education*, V (July, 1928), 854–7.

Dougherty, Gregg. "The Elementary Chemistry Courses at Princeton," *Journal of Chemical Education*, V (July, 1928), 851–3.

Downing, E. R. "The Biology Course Outlined in Major Objectives," *School Science and Mathematics*, XXVIII (May, 1928), 497–505.
Outlines major contributions of biology to mankind's progress and suggests units of a course in biology at the secondary-school level.

Downing, E. R. "Comparison of the Lecture-Demonstration and the Laboratory Methods of Instruction in Science," *School Review*, XXXIII (November, 1925), 688–97.
Critical comparison and summary of the results of several experiments.

Downing, E. R. *Teaching Science in the Schools.* Chicago: University of Chicago Press, 1925. Pp. 186.

Duel, H. W. "The Even-Front System versus the Rotation System in Laboratory Physics," *School Review*, XXXVI (June, 1928), 447–54.

Summarizes related experiments and reports the author's investigation including 168 high-school pupils in physics.

Dunbar, R. E. "The Chemistry Open House as an Aid in Instruction," *Journal of Chemical Education*, V (May, 1928), 531–5.

Finley, C. W. *Biology in Secondary Schools and the Training of Biology Teachers.* Teachers College Contributions to Education, No. 199. New York: Teachers College, Columbia University, 1926. Pp. 80.

Forster, George. "A Three Track Plan for Physical Science and Allied Courses," *School Science and Mathematics*, XXIX (February, 1929), 190–5.
Covers grades VIII–XIV.

Foulk, C. W. "Advanced and Graduate Work in Analytical Chemistry," *Journal of Chemical Education*, V (August, 1928), 979–85.

Frank, J. O. "Aspects of Practice-Teaching in the Preparation of Chemistry Teachers in a State Normal School," *Educational Administration and Supervision*, XI (March, 1925), 157–66.
Describes the plan in use at the Oshkosh, Wisconsin, State Normal School.

Frank, J. O. "The Need for Standards in Courses in the Teaching of General Science," *General Science Quarterly*, XII (March, 1928), 431–43; also in *School Science and Mathematics*, XXVIII (April, 1928), 380–8.
Discusses lack of standardization and variations in courses, remedial measures, objectives, and course content.

Frank, J. O. "The Need for Standards in Courses in the Teaching of Chemistry," *Journal of Chemical Education*, V (March, 1928), 326–36.

Franklin, W. S. "Objectives of Undergraduate Courses in Physics for Engineering Students," *Journal of Engineering Education*, XIX (January, 1929), 421–6.

Franklin, W. S. "The Objectives of Undergraduate Courses in Physics for Engineering Students," *Science*, LXIX (April 12, 1929), 389–92.

Franklin, W. S. "Some Characteristics of the Philosophy of Physics," *School Science and Mathematics*, XXVIII (October, 1928), 764–70.
A discussion of the type of training secured through a study of physics.

Frayne, J. G. "The Plight of College Physics," *School Science and Mathematics*, XXVIII (April, 1928), 345–62.
Discusses research and teaching methods in physics.

Freeman, E. M. "Procedures and Results of Efforts to Reorganize Science Instruction in the University of Minnesota," *Peabody Journal of Education*, VI (January, 1929), 204–18.
Treats aims, content, and method.

Furbay, J. H. "Do College Science Students Know How to Observe?" *School and Society*, XXIX (January 5, 1929), 13–4.
Lists mistakes made by several hundred science students from thirty-four states.

Furman, N. H. "The Technic of Conducting the Introductory Course in Qualitative Analysis," *Journal of Chemical Education*, V (August, 1928), 946–55.

Garard, I. D., and Gates, T. B. "High-School Chemistry and the Student's Record in College Chemistry," *Journal of Chemical Education*, VI (March, 1929), 514–7.

Garlough, L. N. "Achievement Curves and Their Trend through the Year," *Journal of Educational Research*, XVIII (December, 1928), 363–8.
Reports results secured from a class of fifty pupils in biology in the University High School, University of Minnesota.

Ginnings, P. M. "Progress Charts in Elementary Chemistry," *Journal of Chemical Education*, VI (March, 1929), 502–4.

Glenn, E. R., and Walker, Josephine. *Bibliography of Science Teaching in Secondary Schools*. Bureau of Education Bulletin No. 13, 1925. Washington: Bureau of Education. Pp. 162.
Covers the period, 1893–1925.

Grady, R. I. "Another Method of Presenting First-Year College Chemistry," *Journal of Chemical Education*, VI (January, 1929), 82–4.

Guillaudeu, Arthur, and Evans, W. V. "Evening Instruction for the Chemist in Industry: The Chicago Plan," *Journal of Chemical Education*, V (November, 1928), 1406–14.

Hagenow, C. F. "Modern Physics," *School Science and Mathematics*, XXVIII (October, 1928), 717–30.
Sketches some of the developments in physics during the past thirty years and comments on certain important books in the field.

Haldeman, W. S. "Teaching of College Chemistry," *Journal of Chemical Education*, V (October, 1928), 1276–8.

Hawthorne, W. C. "Physics for the Pre-Medic Student," *School Science and Mathematics*, XXVIII (June, 1928), 575–80.
A discussion.

Hendricks, B. C. "How to Teach Chemistry: Library Helps," *Journal of Chemical Education*, V (March, 1928), 303.

Hendricks, B. C., and Chambers, J. S. "Chemistry Teaching in Nebraska," *School Science and Mathematics*, XXIX (February, 1929), 138–41.
Presents information concerning whether high-school chemistry pupils take college chemistry, cost of college chemistry, etc.

Hildebrand, J. H. "Relation between College and Secondary School Science," *National Education Association Addresses and Proceedings*, 1923, pp. 856–60.

Hines, M. A. "Of What Value Is the High-School Course in Chemistry to Those Students Continuing the Subject in College?" *Journal of Chemical Education*, VI (April, 1929), 697–707.

Holmes, H. N. "What Shall Be Taught in the First Year of College Chemistry?" *Science*, LVI (December 8, 1922), 648–50.
Makes suggestions for teaching certain difficult topics.

Hopkins, B. S. "Training of Chemistry Teachers, Prospective and in Service," *School Science and Mathematics*, XXV (March, 1925), 233–8.

Horton, R. E. *Measurable Outcomes of Individual Laboratory Work in Chemistry*. Teachers College Contributions to Education, No. 303. New York: Teachers College, Columbia University, 1928. Pp. 104.

Hunter, G. W. "A Critical and Experimental Investigation of the Present Day Secondary School Methods of the Teaching of Biology in the United States." Unpublished Doctor's thesis, New York University, 1918.

Hurd, A. W. *Problems of Science Teaching at the College Level*. Minneapolis, Minnesota: University of Minnesota Press, 1929.
Reports studies made in the departments of anatomy, physiology, and physics during the school years 1926–28; an evaluation of laboratory instruction, etc.

Hurd, A. W., and Others. "Quantitative Standards for Physics," *North Central Association Quarterly*, III (March, 1929), 589–614.
Suggests units of work, objectives, and activities.

Hutson, P. W. "High-School Science Teachers: A Study of Their Training in Relation to the Subjects They Are Teaching," *Educational Administration and Supervision*, IX (October, 1923), 423–38.

Hyde, W. F., and Guilford, J. P. "Tests for Classification of Students in Chemistry," *Journal of Applied Psychology*, IX (June, 1925), 196–202.

Johnson, P. O. *Curricular Problems in Science at the College Level.* Minneapolis, Minnesota: University of Minnesota Press, 1929. An account of studies in botany with particular attention directed to elementary courses in botany as prerequisite to the more advanced courses in the College of Agriculture and Forestry.

Jones, E. S. "Value of a College General-Science Course," *School and Society*, XXVII (May 19, 1928), 607–8. Based on answers to questions and statements secured from 125 students.

Kennedy, Margaret. "A College Course in General Science," *General Science Quarterly*, XIII (November, 1928), 9–10. Describes a plan devised at Farmville Teachers College, Virginia.

Kilander, H. F. "The Status of the Sciences as Entrance Subjects in the Colleges of Liberal Arts," *School Science and Mathematics*, XXIX (February, 1929), 170–9. Includes a canvass of 290 institutions.

Lemon, H. B. "The Use of Motion Pictures in Physics Teaching," *School Science and Mathematics*, XXII (March, 1922), 254–5.

Lohr, V. C. "Some Factors of Success in Physics," *School Science and Mathematics*, XXVIII (April, 1928), 389–98. Includes a study of high-school pupils in beginning physics and junior-college students in a first course in physics.

Lyon, E. P. "Science and Pre-Professional Courses," *School and Society*, XXVII (January 28, 1928), 89–96.

Mahin, E. G. "The Technic of Conducting the Introductory College Course in Quantitative Analysis," *Journal of Chemical Education*, V (August, 1928), 965–74.

Mattern, L. W. "The Correlation of High-school Chemistry with First-Year College Chemistry," *Journal of Chemical Education*, V (December, 1928), 1627–33.

Miller, D. F. "An Artificial Ant Nest as a Project in the Teaching of Biology," *School Science and Mathematics*, XXIX (March, 1929), 256–9.

Miller, D. F. "Out-of-Season Materials for the Biology Class," *School Science and Mathematics*, XXIX (May, 1929), 470–6.

Montgomery, W. A. *Natural Science Teaching in Great Britain.* Washington: Government Printing Office, 1920. Pp. vi + 106.

Muhleman, G. W. "A Comparison between European and American Methods in Education," *Journal of Chemical Education*, V (June, 1928), 711–4.

Nelson, G. E. "Biological Definitions in Elementary College Courses," *School Science and Mathematics*, XXVIII (October, 1928), 706–9.

An analysis of examination questions secured from seventy-one departments of zoology, botany, or general biology.

Noll, V. H. *Laboratory Instruction in the Field of Chemistry.* Minneapolis, Minnesota: University of Minnesota Press, (in preparation).

Olsen, J. C. "The Work of the Exceptionally Gifted Student in Chemistry and Chemical Engineering," *Journal of Chemical Education*, V (October, 1928), 1282–6.

Otto, Carl, and Friedman, H. B. "A Chemical Vaudeville Show," *School Science and Mathematics*, XXVIII (October, 1928), 755–63.

Dramatization of certain experiments in chemistry.

Paneth, Fritz. "The Teaching of Chemistry in German Universities," *Journal of Chemical Education*, V (June, 1928), 705–10.

Pieper, C. J. "The Supervision of Natural Science," *The Supervision of Secondary Subjects*, chapter ii. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Powers, S. R. "Research in Science Teaching," *Teachers College Record*, XXX (January, 1929), 334–42.

Discusses the curriculum and learning; cities a few important studies.

Reedy, J. H. "Objectives and Content of the Elementary College Course in Qualitative Analysis," *Journal of Chemical Education*, V (August, 1928), 937–42.

Simons, J. H. "The Fundamentals of Science," *School Science and Mathematics*, XXVIII (December, 1928), 966–74.

Outlines an elementary science course for the college.

Skilling, W. T. "Modern Methods and Instruments in the Study of the Heavens," *School Science and Mathematics*, XXIX (February, 1929), 151–6.

Smith, O. M., and Trimble, H. M. "The Prediction of the Future Performance of Students from Their Past Records," *Journal of Chemical Education*, VI (January, 1929), 93–7.

Stout, L. E. "A Forcible Method of Emphasizing Laboratory Technic," *Journal of Chemical Education*, V (April, 1928), 403.

Twiss, G. R. *A Textbook in the Principles of Science Teaching.* New York: Macmillan Co., 1917. Pp. 480.
This book attempts to show how the findings of modern experimental psychology may be applied in science teaching.

Van De Voort, Alice M. *The Teaching of Science in Normal Schools and Teachers Colleges.* Teachers College Contributions to Education, No. 287. New York: Teachers College, Columbia University, 1928. Pp. iv + 96.
The purpose of this study is to present some of the significant trends and tendencies in the professional training of the teacher of science in normal schools and teachers colleges; it sketches the historical development of the movement; analyzes science curriculum; and discusses the adequacy of the preparation of the teacher of science for the work that he must undertake.

Wade, I. W. "A Method for Using the History of Chemistry as a Teaching Aid," *School Science and Mathematics*, XXVIII (November, 1928), 877–80.
Includes a brief bibliography.

Weber, Lynda. "The Use of the Unit-Contract System in Teaching Biology," *School Science and Mathematics*, XXVIII (April, 1928), 399–413.
Includes outlines of certain units taught.

West, C. J., and Hull, Callie. "Support of Graduate Research in Chemistry in American Universities, 1927–1928," *Journal of Chemical Education*, V (August, 1928), 1005–14.

Willard, H. H. "Objectives and Content of the Introductory Course in Quantitative Analysis," *Journal of Chemical Education*, V (August, 1928), 957–63.

Williams, L. W. "The Training of Chemistry Teachers," *School Science and Mathematics*, XXIV (January, 1924), 51–7.
Describes plan used in the University High School, Urbana, Illinois.

Special Committee on the Place of Science in Education, "On the Place of Science in Education," *School Science and Mathematics*, XXVIII (June, 1928), 640–64.

A discussion of the functions of science, enrollment in high-school science, and type studies relating to educational uses of science.

"Symposium on the Teaching of Physical Chemistry," *Journal of Chemical Education*, VI (February, 1929), 254–85.

L. Social Studies

Current Events Guide. American Education Press, Inc., Columbus, Ohio. 9 numbers.

Economic Geography. Clark University, Worcester, Massachusetts. Quarterly.

Historical Outlook. McKinley Publishing Co., Philadelphia, Pennsylvania. 9 numbers.

Journal of Educational Sociology. American Viewpoint Society, Inc., 13 Astor Place, New York City. 10 numbers.

Journal of Geography, A. J. Nystrom and Co., 2249 Calumet Avenue, Chicago, Illinois. 9 numbers.

National Geographic Magazine. National Geographic Society, Washington, D. C. Monthly.

Social Forces. University of North Carolina Press, Chapel Hill, North Carolina. Quarterly.

Social Science. Pi Gamma Mu, National Social Science Honor Society, 1414 East Fourth Avenue, Winfield, Kansas. Quarterly.

Social Science Abstracts. Social Science Research Council, Columbia University. Monthly.

Sociology and Social Research. University of Southern California, Los Angeles, California. Bimonthly.

World Review. Mount Morris, Illinois.

World News. American Education Press, Inc., Capitol Square East, Columbus, Ohio.

American Academy of Political and Social Science. 3622–24 Locust Street, Philadelphia, Pennsylvania.

American Association of Social Workers, 130 East Twenty-Second Street, New York City.

American Economic Association.

American Geographical Society, Broadway at One Hundred and Fifty-Sixth Street, New York City.

American Historical Association, 1440 Woodward Building, Washington, D. C.

American Political Science Association.

American Social Hygiene Association, 370 Seventh Avenue, New York City.

American Sociological Society, Fifty-Eighth Street and Ellis Avenue, Chicago, Illinois.

Association of American Geographers.

Association of History Teachers of the Middle States and Maryland.

Association of Schools of Professional Work.

Mississippi Valley Historical Association.

National Conference of Social Work, 277 East Long Street, Columbus, Ohio.

National Council for the Social Studies.

National Council of Geography Teachers.

National Geographic Society, Washington, D. C.

National Historical Society, 33 West Ninety-Seventh Street, New York City.

National Society for the Study of Educational Sociology.

New England History Teachers Association.

Northwestern Association of History, Government, and Economics Teachers.

Pollak Foundation for Economic Research, Newton 58, Massachusetts.

Social Science Research Council.

Southern Conference on the Social Sciences.

Bowden, A. O. "Our 396 Major Social Problems and Issues and the Schools," *Journal of Educational Sociology*, II (March, 1929), 397–411.

Branom, F. K. *A Bibliography of Recent Literature on the Teaching of Geography.* Worcester, Massachusetts: Department of Geography, Clark University, 1925. Pp. 32.

Branom, M. E. *The Measurement of Achievement in Geography.* New York: Macmillan Co., 1925. Pp. 188.

Broom, M. E., and Fox, G. F. "Predicting Success in First Semester College Social Science," *School and Society*, XXVIII (December 1, 1928), 689–90.
Includes data from 259 students.

Chapman, A. D. E. "The Study of Geography in Schools with Special Reference to Its Organization and Teaching in England." Unpublished Doctor's thesis, Harvard University, 1922.

Clement, S. C. "Educational Sociology in Normal Schools and Teachers' Colleges," *Journal of Educational Sociology*, I (September, 1927), 31–6.

Dawson, E. *Teaching the Social Studies.* New York: Macmillan Co., 1927. Pp. xvi + 406.

Discusses objectives and methods, including a series of chapters by experts in geography, biology, psychology, ethics, economics, government, sociology, and history.

Dearborn, N. H. "The Status of the Social Studies in State Teachers Colleges and State Normal Schools," *American Association of Teachers Colleges Yearbook*, 1925, pp. 99–107.

Doherty, Margaret. "Testing in Geography: A Selected Bibliography," *Educational Research Bulletin*, II (April 4, 1923), 108–9. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

Covers the period, 1914–1923.

Eldridge, Seba. "Teaching the Social Sciences," *School and Society*, XIX (June 28, 1924), 749–56.

A series of quotations conveying students' reactions to various methods used in social-science courses.

Elwood, C. A. "Research in Educational Sociology," *Journal of Educational Sociology*, I (September, 1927), 25–30.

Farmer, Hallie. "How to Study History—A Course for College Freshmen," *Historical Outlook*, XIX (November, 1928), 328. Describes a plan used at Alabama College.

Good, C. V. "An Experimental Study of the Merits of Extensive and Intensive Reading in the Social Sciences," *School Review*, XXXIII (December, 1925), 755–70.

Presents the methods and results of a study among high-school and college students to determine the merits of several reading and study procedures.

Gordon, W. E. "The Validity of the New York State Regents' Examinations in the Social Studies, with Special Reference to Objective Examination Methods." Unpublished Doctor's thesis, University of Iowa, 1926.

Halverson, L. H. "Geography in Teachers Colleges," *Education*, XLIX (December, 1928), 193–205.

Includes a classification of 651 courses in geography from eighty-three schools under thirty-two main and miscellaneous headings.

Hill, H. C. "The Supervision of Social Studies," *The Supervision of Secondary Subjects*, chapter vii. Edited by W. L. Uhl. New York: D. Appleton and Co., 1929.

Hoffer, C. R. "The Beginning Course in Rural Sociology at the University of Minnesota," *School and Society*, XXI (April 25, 1925), 501–4.

A brief review of methods of teaching rural sociology.

Hoskins, H. L. "Self-Starting the Freshman College History Course," *Historical Outlook*, XIV (October, 1923), 254–7

Houghton, H. P. "College Course in Classical Culture," *Educational Review*, LIX (March, 1920), 181–8.

Kimmel, W. G. "Trends in the Teaching of History," *Historical Outlook*, XX (April, 1929), 180–4.

Discusses objectives, unit organization, understanding of principles, world relationships, and organization of activities.

Knowlton, E. C. "Improving the Quality of Instruction in History with the Aid of the Photoplay," *Historical Outlook*, XX (April, 1929), 167–79.

Loeb, I. "The Required Course in Citizenship for College Students," *National Education Association Addresses and Proceedings*, 1921, pp. 456–60.

Maher, Ellen A. "Contributions of the Observational Method to Education," *Journal of Educational Sociology*, I (May, 1928), 529–39.

Emphasizes the case-study method and cites illustrative cases.

Miller, D. F. "Relation of Laboratory to Field Methods in Ecological and Economic Studies," *School and Society*, XXIX (May 4, 1929), 571–2.

Moore, B. V. "The Interview in Social Industrial Research," *Social Forces*, VII (March, 1929), 445–52.

Odum, H. W. "The 'Scientific-Human' in Social Research," *Social Forces*, VII (March, 1929), 350–62.

Ogg, F. A. *Research in the Humanistic and Social Sciences.* New York: Century Co., 1928. Pp. 454.

A report of a survey conducted for the American Council of Learned Societies; covers the research work done by learned societies, colleges, universities, bureaus, foundations, business houses, and individuals.

Reinhardt, J. M. "Trends in the Teaching of 'Social Problems' in Colleges and Universities in the United States," *Social Forces*, VII (March, 1929), 379–84.

A questionnaire study of sixty colleges and universities.

Rugg, E. U. *Curriculum Studies in the Social Sciences and Citizenship.* Colorado Teachers College Education Series, No. 3. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. xiv + 214.

Rugg, E. U., and Dearborn, N. H. *The Social Studies in Teachers Colleges and Normal Schools.* Colorado Teachers College Education Series, No. 4. Greeley, Colorado: Colorado State Teachers College, 1928. Pp. viii + 162.

Shields, H. G. "Objectives in Junior College Economics," *Historical Outlook*, XX (March, 1929), 113–4.
Based on statements of instructors of elementary economics in junior colleges.

Smith, J. R. "The Contribution of Economic Geography to the Preparation of a Teacher of Geography," *Teachers College Record*, XXX (January, 1929), 354–63.

Smith, W. R. "Essentials of a General Introductory Course in Educational Sociology," *Journal of Educational Sociology*, II (December, 1928), 198–209.

Van Wagenen, M. J. "The College Freshman's Range of Information in the Social Sciences," *School Review*, XXXV (January, 1927), 32–44.
Presents results secured from administering American history and geography scales to approximately eight hundred freshmen at the University of Minnesota.

Wilgus, A. C. "Wells and History Education," *Educational Review*, LXX (June, 1925), 32–4.
The author includes in this article a discussion of what history is taught, and how, in universities.

Wilson, H. E. "'Things to Do' in the Social Science Classroom: An Analysis of Methods," *Historical Outlook*, XX (May, 1929), 218–24.
Includes lists of visual, listening, oral, writing, drawing, manual, general, and meditative activities.

"Case Recording and Sociological Research," *Social Forces*, VI (June, 1928), 524–44.
Four articles on the case-study technique.

"The Interview as a Process of Social Interaction," *Social Forces*, VI (June, 1928), 545–69.
Five articles on the interview method.

M. References on Miscellaneous Administrative and Teaching Problems in Higher Education

Agnew, W. D. *The Administration of Professional Schools for Teachers.* Baltimore: Warwick and York, 1924. Pp. 262.

Alexander, T. "Practice-Teaching in Germany for Elementary and Secondary Teachers," *Educational Administration and Supervision*, XIII (May, 1927), 289–309.
Includes sample programs of teachers colleges and describes the various phases of practice teaching in Germany.

Amos, T. W. "Student Government," *National Education Association Addresses and Proceedings*, 1925, pp. 440–9.

Anderson, E. W. "Getting the Most Aid from Appointment Offices in Selecting Teachers," *Educational Research Bulletin*, VIII (April 13, 1929), 146–9, 156–7. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

Anderson, E. W. "The Work of an Appointments Division," *Educational Research Bulletin*, VIII (February 20, 1929), 67–73. Columbus, Ohio: Bureau of Educational Research, Ohio State University.
Describes the work of the appointments division at Ohio State University.

Anderson, E. W., and Litchen, Ruth E. "The Status of the State College Teacher Placement Bureau," *School and Society*, XXVII (June 16, 1928), 728–32.
Presents data secured from 243 schools.

Anderson, Ruth E. "A Study of Tuition Fees in 271 Endowed Colleges and Universities," *Association of American Colleges Bulletin*, XV (May, 1929), 285–332.

Andrews, B. R. "The Cost of Going to College," *Teachers College Record*, XXVII (October, 1925), 129–41.
Bibliography which covers the period, 1894–1924.

Angell, J. R. "Problem of the College Student," *School and Society*, XXIII (February 20, 1926), 243–4.

Armentrout, W. D. *The Conduct of Student Teaching in State Teachers Colleges.* Colorado Teachers College Education Series, No. 2. Greeley, Colorado: Colorado State Teachers College, 1927. Pp. viii + 198.
Discusses various phases of student teaching: historical development, analysis of activities involved, status, observation, time analysis, improvement, and current program.

Avent, J. E. "Report on Summer Sessions in State Teachers Colleges," *National Education Association Addresses and Proceedings*, 1925, pp. 383–9.

Avent, J. E. *The Summer Sessions in State Teachers' Colleges as a Factor in the Professional Education of Teachers.* Richmond, Virginia: William Byrd Press, 1925. Pp. 394.
A study by means of questionnaires, catalogues, published reports, statutes, correspondence, and educational writings of the various aspects of summer schools: purposes, organization and administration, curriculum, teachers, students, etc.

Baker, H. T. "The Moral Superiority of the College," *School and Society*, XXVII (April 21, 1928), 478–80.
A discussion which maintains that the college, in spite of its faults, is our best American institution.

Ball, R. N. "Report of the Commission on Permanent and Trust Funds," *Association of American Colleges Bulletin*, XV (March, 1929), 162–6.

Barr, A. S. "The Training of Teachers for the Direction of Extra-Curricular Activities," *Educational Administration and Supervision*, XV (May, 1929), 350–5.

Bartlett, L. W. "Authority of the State in the Control of Private Institutions of Higher Education," *Teachers College Record*, XXIX (April, 1928), 597–604.
Cites a number of court decisions.

Bartlett, L. W. *State Control of Private Incorporated Institutions of Higher Education.* Teachers College Contributions to Education, No. 207. New York: Teachers College, Columbia University, 1926. Pp. 96.

Bass, F. "The All-University Freshman Year," *National Education Association Addresses and Proceedings*, 1921, p. 456.

Becker, H. T., translated by Thomas Alexander. "The Present Situation in Teacher-Training in Germany," *Educational Administration and Supervision*, XII (October, 1926), 441–57.
Describes the legal status of teacher training in the various German states.

Bell, J. C., and Suhrie, A. L. *Contributions to Education*, Volume Two. Yonkers-on-Hudson, New York: World Book Co., 1928. Pp. xii + 426.
Part II consists of a series of papers dealing with problems of teacher training.

Benson, C. E. *The Output of Professional Schools for Teachers.* Baltimore: Warwick and York, 1922. Pp. 88.

Blackhurst, J. H. *Directed Observation and Supervised Teaching.* Boston: Ginn and Co., 1925. Pp. xii + 420.
Treats the material phases of classroom procedure, the process of instruction, practice teaching, and the actual work of instruction.

Blackhurst, J. H. "The Supervision of Observation and Student-Teaching at Purdue University," *Educational Administration and Supervision*, XII (February, 1926), 105–9.

Borgeson, F. C. *The Administration of Elementary and Secondary Education in Sweden.* Teachers College Contributions to Education, No. 278. New York: Teachers College, Columbia University, 1927. Pp. viii + 232.

Breslich, E. R., Gray, W.S ., Pieper, C. J., and Reavis, W. C. "The Supervision and Administration of Practice-Teaching," *Educational Administration and Supervison*, XI (January, 1925), 1–12.
Describes the plan in effect at the University of Chicago.

Brooks, Ruth S. "The Perfect Small House," *School and Society*, XXVIII (July 14, 1928), pp. 46–9.
Describes with floor plans a type of house Swarthmore College has built for professors.

Buckingham, B. R. *Supply and Demand in Teacher Training.* Bureau of Educational Research Monographs, No. 4. Columbus, Ohio: Ohio State University, 1926. Pp. 182.

Burlingame, F. M. "The Professional Preparation of Teachers for Secondary Schools in the United States." Unpublished Doctor's thesis, Harvard University, 1926.

Burris, B. J. "The Problem of Certification in Relation to Teacher Training," *National Education Association Addresses and Proceedings*, 1926, pp. 932–9.

Burruss, J. A. *A Study of the Business Administration of Colleges, Based on an Examination of the Practices of Land-Grant Colleges in the Making and Using of Budgets.* Chicago: University of Chicago, 1921. Pp. 58.

Bushnell, P. P. "A Method of Teacher Comparison," *Educational Administration and Supervision*, IX (October, 1923), 416–22.

Butcher, T. W. "The Training of Teachers in Service," *National Education Association Addresses and Proceedings*, 1926, pp. 302–7.

Capen, S. P. "Dilemma of the College of Arts and Science," *Educational Review*, LXI (April, 1921), 277–85.

Carhart, A. H. "Campus Planning Objectives," *School and Society*, XXVII (April 14, 1928), 439–42.
Written by a landscape architect; points out the relation between careful organization of the relationships of buildings and effective class work and laboratory activities.

Carhart, A. H. "New Campuses for Old!" *School and Society*, XXVII (April 21, 1928), 468–70.
A plea for a more carefully planned college building program.

Carreon, M. L. "Professional Training in Education," *School and Society*, XXIX (February 23, 1929), 243–7.
Discusses teacher training in terms of the past, present, professional requirements, professional training of teachers and supervisory officers, success of graduates, and the future.

Cass, E. M. "An Investigation of Current Practices on Conducting Student Teaching in Certain Selected Centers for Training Vocational Teachers," *University of Pittsburgh School of Education Journal*, III (May-June, 1928), 87–92.
Based on a questionnaire study of twenty-eight training centers.

Cassidy, P. F. "The Catholic College: Foundations and Development in the United States (1677–1850)." Unpublished Doctor's thesis, Catholic University, 1924.

Champlain, C. D. "The Movement for a National University in the United States." Unpublished Doctor's thesis, University of Pittsburgh, 1925.

Chapin, F. S. *Extra-Curricular Activities at the University of Minnesota.* Minneapolis: University of Minnesota Press, 1929. Pp. x + 140.
Based on the replies of 4,637 students, 408 alumni, and 156 campus organizations.

Charters, W. W. "The Technique of Determining Content of Student-Teaching Courses," *Educational Administration and Supervision*, XV (May, 1929), 343–9.

Chassee, L. J. *A Study of Student Loans and Their Relation to Higher Educational Finance.* New York: Harmon Foundation, 1925. Pp. 170.

Chu, J. P. *Chinese Students in America:* Qualities Associated with Their Success. Teachers College Contributions to Education, No. 127. New York: Teachers College, Columbia University, 1922. Pp. 56.

Clarke, C. L. "A Study of the American Liberal College," *Association of American Colleges Bulletin*, X (May, 1924), 144–53.

Cleland, J. S. "Age at Graduation and Success in Life," *School and Society*, XXI (January 3, 1925), 31–2.
A study of age of graduation from college, and its relation to success in life.

Coe, G. A. "Basis of Appeal to Young Men and Women in the Interest of the Teaching Profession," *Education*, XL (May, 1920), 576–9.

Cole, L. W. "Partial Remedy for Loafing in College," *School and Society*, XX (September 6, 1924), 311–3.

Colebank, G. H. "Practice Teaching in the Colleges of the North Central Association," *North Central Association Quarterly*, III (December, 1928), 376–431.
Includes data on 119 institutions and a bibliography.

Colvin, S. S. "The Lesson Plan and Its Value to the Student-Teacher," *Eighteenth Yearbook of the National Society for the Study of Education*, Part I, pp. 190–212. Bloomington, Illinois: Public School Publishing Co., 1919.

Cook, Katherine M. *Professional Preparation of Teachers for Rural Schools.* Bureau of Education Bulletin No. 6, 1928. Washington: Bureau of Education. Pp. vi + 72.
Abstracts of addresses delivered at a conference called by the United States Commissioner of Education at Boston, February 25, 1928.

Cook, Katherine M. *State Laws and Regulations Governing Teachers' Certificates.* Bureau of Education Bulletin No. 19, 1927. Washington: Bureau of Education. Pp. vi + 296.

Cook, W. A. "The Quality of Work Done by Graduates of State Normals Who Enter the University," *Educational Administration and Supervision*, XII (March, 1926), 179–86.

Cook, W. A. "Some Aspects of the Status of the Critic Teacher," *Educational Administration and Supervision*, XIV (April, 1928), 247–56.
Based on replies from over 175 critics in twenty-one state normal schools and teachers colleges and nineteen high-school critics in three state universities.

Cooper, H. E. *Cost of Training Teachers:* A Method of Determining Cost and Its Application in the State of New York. Baltimore: Warwick and York, 1924. Pp. 112.

Corwin, R. N. "Problem of the Liberal Arts College," *Educational Review*, LIX (May, 1920), 368–80.

Crawford, C. C. "Some Comparisons of Freshman Boys and Girls," *School and Society*, XXIV (October 16, 1926), 494–6.

Crawford, N. A. *A Man of Learning.* Boston: Little, Brown and Co., 1928. Pp. 272.

Creager, J. O. "The Problem of Administrative Control in Colleges of Education in State Universities." Unpublished Doctor's thesis, New York University, 1925.

Crossman, L. E. "A Suggestion for the Colleges," *School and Society,* XV (April 22, 1922), 448–51.

Curtis, W. C. "Unionization from the Standpoint of a University Teacher," *Educational Review,* LX (September, 1920), 91–105.

Davis, F. G. "Status of Teacher-Training in Pennsylvania Colleges," *Educational Administration and Supervision,* XII (December, 1926), 618–24.

Davis, H. C. "Some Practical Problems of the Training-Teacher in the Elementary Training School," *Educational Administration and Supervision,* XIII (May, 1927), 332–8.

Davis, H. N. "Sliding Scale Tuitions," *Association of American Colleges Bulletin,* XV (May, 1929), 279–84.

Dealey, H. L. "College Women and Emotional Attitudes," *Education,* XL (April, 1920), 511–9.

Dearborn, N. H. "Different Procedures in the Practice Schools of New York State Normal Schools," *Educational Administration and Supervision,* XIII (May, 1927), 339–41.

Dexter, E. S. "What Constitutes Campus Popularity in Course or Individual," *School and Society,* XXIII (June 12, 1926), 758–60.

Dexter, R. C. "Democracy and the College," *Educational Review,* LXIX (January, 1925), 33–4.

Drake, Lois M. "'Externs' in Teacher Training," *Journal of the National Education Association,* XVII (November, 1928), 241–2.

Describes a follow-up service instituted by Eastern South Dakota State Normal School to keep in touch with students after graduation.

Drummong, J. H. "Engineering and the Colleges," *Educational Record,* VII (January, 1926), 25–35.

Dye, R. "Saving the Sophomore, the Y.M.C.A.," *American Mercury,* IX (November, 1926), 288–94.

Eckelberry, R. H. "Formalism an Ever-Present Danger," *Educational Review,* LXX (December, 1925), 237–40.

Eckelberry, R. H. "The Origin and Development of the Municipal University in the United States." Unpublished Doctor's thesis, Ohio State University, 1927.

Edmund, Gertrude. "The Higher Education of Women in the United States up to 1870." Unpublished Doctor's thesis, New York University, 1919.

Egbert, J. C. *University Summer Schools.* Bureau of Education Bulletin No. 31, 1922. Washington: Bureau of Education. Pp. 14.

Elliott, E. C. "The Board of Control," *Higher Education in America,* Part II, chapter viii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Evans, C. E. "Student Self-Government in Teacher-Training Institutions," *National Education Association Addresses and Proceedings,* 1921, pp. 284–50.

Evenden, E. S. "The Critic Teacher and the Professional Treatment of Subject-Matter—A Challenge," *Educational Administration and Supervision,* XV (May, 1929), 373–82.

Felmley, D. "Teachers' College Problems," *National Education Association Addresses and Proceedings,* 1921, pp. 164–7.

Fenton, Norman. "Teachers and the Political Life of the Nation," *School and Society,* XXVIII (October 20, 1928), 472–4.
Describes a teachers college course which included lectures by various state officers who decribed the work of their departments.

Flexner, A. "Modern University," *Atlantic Monthly,* CXXXVII (October, 1925), 530–41.

Fox, D. R. "The Economics of Higher Education in Great Britain," *Political Science Quarterly,* XLIV (March, 1929), 1–15.
Indicates a growing interest in higher education in England.

French, Will. "The Professional Training of Secondary School Teachers," *North Central Association Quarterly,* III (December, 1928), 333–75.
A committee report which reviews previous studies and includes a bibliography.

Frost, E. "Can We Save Our Colleges from Obsolescence?" *American Review,* III (November, 1925), 673–82.

Furst, Clyde. "The University System at Michigan," *Educational Record,* V (October, 1924), 237–46.

Gage, B. "The American Colleges in the Orient as Exemplified by the College of Yale-in-China." Unpublished Doctor's thesis, Yale University, 1924.

Garrison, N. L. *Status and Work of the Training Supervisor.* Teachers College Contributions to Education, No. 280. New

York: Teachers College, Columbia University, 1927. Pp. viii + 98.

Gavit, J. P. *College.* New York: Harcourt, Brace and Co., 1925. Pp. x + 342.

Good, C. V. "The Appeal Made to High-School Graduates by College Catalogues," *School and Society*, XXIII (January 30, 1926), 149–52.
Based on an analysis of the catalogues of twenty-three colleges; describes a method of catalogue revision employed at Miami University.

Good, C. V., and Hughes, R. M. "Cooperative College Administration," *Journal of Education*, CIV (October 4, 1926), 289.
Describes a plan for promoting closer contacts between administrative and instructional staffs at Miami University.

Graham, H. T., and Others. *The Expenses of Women College Students:* A Survey of 114 Colleges and Universities. St. Louis: Branch of the American Association of University Women, 1922. Pp. 8.

Graham, J. L. "A Quantitative Comparison of Rational Responses of Negro and White College Students." Unpublished Doctor's thesis, George Peabody College for Teachers, 1927.

Halnon, W. "A Descriptive, Critical, and Constructive Study of the Control, Organization, and Administration of Training Elementary School Teachers in England, Canada, and the United States." Unpublished Doctor's thesis, Indiana University, 1925.

Hamilton, F. R. *Fiscal Support of State Teachers Colleges.* Teachers College Contributions to Education, No. 165. New York: Teachers College, Columbia University, 1924. Pp. 52.

Handschin, C. H. "Interschool and Intercollegiate Scholarship Competition," *School and Society*, XIII (April 16, 1921), 473–5.

Haskins, C. H. *The Rise of Universities.* New York: Henry Holt and Co., 1923. Pp. 134.

Hatt, Elsie, and McClusky, F. D. *A Study of Enrollment.* Studies in Higher Education, No. 2. Lafayette, Indiana: Purdue University, 1926. Pp. 50.

Henderson, J. L. "A Statistical Study of the Use of City School Systems by Student-Teachers in Colleges and Universities in the United States," *Educational Administration and Supervision*, XII (May, 1926), 326–39.

Henmon, V. A. C. "Preliminary Report on Extension Activities in Colleges and Universities," *National Education Association Addresses and Proceedings*, 1926, pp. 296–301.

Hershey, C. B. "Historical Aspects of the Church and Higher Education in the United States." Unpublished Doctor's thesis, Harvard University, 1923.

Hertzog, W. S. *State Maintenance for Teachers in Training.* Baltimore: Warwick and York, 1921. Pp. 144.

Hill, C. M. "The Publicity Program of the Small College," *School and Society*, XXVIII (August 4, 1928), 147–52.
Reports a questionnaire study based on replies from one hundred small colleges.

Hill, L. B. "Teaching Qualities in Former Graduates as Guides in Improving Student-Teaching," *Educational Administration and Supervision*, XV (May, 1929), 362–6.

Hills, E. C. "Shall the College be Divided?" *Educational Review*, LXV (February, 1923), 92–8.

Hills, E. C. "The Students' Complaint," *School and Society*, XVI (December 30, 1922), 747–9.

Holzinger, K. J. "Retarded College Professor," *School and Society*, XVII (June 30, 1923), 729–32.

Howard, F. E. "Scholarship and Morality in College," *Education*, XXXIX (February, 1919), 335–8.

Hubbell, L. G. *The Development of University Departments of Education in Six States of the Middle West.* Washington: L. G. Hubbell, 1924. Pp. 126.

Humphreys, H. C. *The Factors Operating in the Location of State Normal Schools.* Teachers College Contributions to Education, No. 142. New York: Teachers College, Columbia University, 1923. Pp. 152.

Hunt, Thelma. "Measuring Teaching Aptitude," *Educational Administration and Supervision*, XV (May, 1929), 334–42.

Hutson, P. W. *Training of the High School Teachers of Minnesota.* Educational Monograph, Vol. XXVI, No. 3. Minneapolis: University of Minnesota, 1923. Pp. 80.

Irvin, O. W. *State Budget Control of State Institutions of Higher Education.* Teachers College Contributions to Education, No. 271. New York: Teachers College, Columbia University, 1927. Pp. 120.
Concerned with an establishment of types of budgetary procedure; a symbolic demonstration of the fact that they are consistent and internally self-consistent, etc.

Jacobs, C. L. *The Relation of the Teacher's Education to Her Effectiveness.* Teachers College Contributions to Education, No. 277. New York: Teachers College, Columbia University, 1928. Pp. 98.
Suggests the general subjects and professional courses which seem most effective in helping to produce the best teachers.

James, M. E. "Using the Results of Measurement in Reading in Training Student-Teachers," *Elementary School Journal,* XXIII (November, 1922), 190–6.

Jaqua, E. J. "Secondary and Higher Education in Iowa." Unpublished Doctor's thesis, Harvard University, 1919.

Johnston, J. B. "New Demands for Differential Treatment of Students in the College of Liberal Arts," *Bulletin of the American Association of University Professors,* XI (October, 1925), 327–33.

Jones, L. G. E. *The Training of Teachers in England and Wales.* New York: Oxford University Press, 1924. Pp. 486.

Jordan, J. C. "College Credit for Private Study," *School and Society,* XV (March 4, 1922), 258–60.

Judd, C. D. *The Summer School as an Agency for the Training of Teachers in the United States.* Peabody Contributions to Education, No. 3. Nashville, Tennessee: George Peabody College for Teachers, 1919.

Kane, T. F. "University Problems: Uniform Methods of Calculating the Per Capita Cost of Education," *Proceedings of the National Association of State Universities,* XIX (1921), 53–68.

Kelly, F. J. "The College or University Budget," *Higher Education in America,* Part II, chapter ix. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Kelly, F. J. "The University in Prospect," *School and Society,* XXVIII (November 24, 1928), 633–42.
Discusses the desirability of state-controlled and state-supported universities, private endowment in higher education, coordination of the divisions of the university, teaching, and curriculum.

Kelly, R. L. *Colorado College:* A Study in Higher Education. Association of American Colleges Bulletin, Vol. VIII, No. 5. New York, 1922. Pp. 340.

Kinder, J. S. "The Vital Point in Teacher Training," *Education,* XLIX (May, 1929), 556–60.

King, C. A. "Higher Education or the Highest," *Educational Review,* LXIX (January, 1925), 17–22.

Klein, A. J. *The Administration of Correspondence-Study Departments of Universities and Colleges.* Bureau of Education Bulletin No. 56, 1919. Washington: Bureau of Education. Pp. 54.

Klein, A. J. *Class Extension Work in the Universities and Colleges of the United States.* Bureau of Education Bulletin No. 62, 1919. Washington: Bureau of Education. Pp. 48.

Klein, A. J. *Correspondence Study in Universities and Colleges.* Bureau of Education Bulletin No. 10, 1920. Washington: Bureau of Education. Pp. 34.

Knight, F. B. "Analysis of Teaching and Teachers," *Journal of Educational Research,* X (October, 1924), 222–7.
Describes three types of analysis of teaching and teachers.

Kolbe, P. R. *The Colleges in War Time and After.* New York: D. Appleton and Co., 1919. Pp. 320.

Kolbe, P. R. *Urban Influences on Higher Education in England and the United States.* New York: Macmillan Co., 1928.

Kolbe, P. R. "Urban Influences on Higher Education in England," *School and Society,* XXVII (May 26, 1928), 613–21.
Describes various types of institutions and the work offered.

Kolbe, P. R. "Urban Influences on Higher Education in England," *School and Society,* XXVII (June 23, 1928), 738–43.

Kolbe, P. R. "Urban Influences on Higher Education in England," *School and Society,* XXVIII (August 11, 1928), 153–9.

Koos, L. V. "Residential Distribution of College Students and Its Meaning for the Junior-College Problem," *School and Society,* XIII (May 7, 1921), 557–62.

Kunkel, B. W. "Colleges and Scientific Leadership," *School and Society* XIX (April 5, 1924), 411–2.

Lancelot, W. H. "Developing the Student-Teachers in Traits of Personality," *Educational Administration and Supervision,* XV (May, 1929), 356–61.

Landsittel, F. C. "Cooperation in Teacher Training," *Educational Review,* LXIV (December, 1922), 377–82.

La Poe, J. L. "Ohio's Support of Higher Education," *Educational Research Bulletin,* VII (May 2, 1928), 177–74. Columbus, Ohio: Bureau of Educational Research, Ohio State University.
Compares seven North Central States from various angles of the field of higher education.

La Poe, J. L. "Pennsylvania's Support of Higher Education," *Educational Research Bulletin,* VIII (January 23, 1929),

23–31, 42–4. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

Lapsley, G. "Education in the English Manner," *Atlantic Monthly*, CXXXVIII (October, 1926), 478–88.

Learned, W. S., and Others. *The Professional Preparation of Teachers for American Public Schools.* New York: Carnegie Foundation for the Advancement of Teaching, 1920. Pp. 476.

Lee, E. A. "College Teaching: Service or Sinecure?" *Educational Review*, LXV (February, 1923), 83–7.

Leighton, J. A. "Advantages Involved in Extending the Scope of Faculty Participation," *National Education Association Addresses and Proceedings*, 1922, pp. 896–903.

Leonard, R. J. *The Coordination of State Institutions for Higher Education through Supplementary Curricular Boards.* Bureau of Research Studies, No. 13. Berkeley, California: University of California, 1923. Pp. 188.

Li, Shu Tang. "A Study of the Organization, Powers and Duties of Boards of Control of State Universities in the United States and the Application of Such Study to Similar Institutions in China." Unpublished Doctor's thesis, New York University, 1928.

Lide, E. S. "Personality Traits of School Administrators," *Educational Research Bulletin.* VIII (April 3, 1929), 141–3. Columbus, Ohio: Bureau of Educational Research, Ohio State University.

Lists traits and trait actions obtained from interviews.

Little, C. C. "The Training of Teachers," *North Central Association Quarterly*, III (December, 1928), 324–32.

Lowery, J. G. "The Attitude of College Students toward Teaching," *School Review*, XXVIII (May, 1920), 379–82.

Ludeman, W. W. "Do Pupils Lose under Practice Teachers?" *Educational Administration and Supervision*, XIV (February, 1928), 101–4.

Concludes that pupils do not lose by being taught by practice teachers provided the proper control of the cadet work is worked out.

McConn, M. "Genus Professor," *Nation*, CXIII (November 9, 1921), 537–9.

McCrory, J. R. "A Comparative Study of Two Groups of Teachers College Students," *Educational Administration and Supervision*, XIV (October, 1928), 469–75.

Reports a study of students with one year of training as compared with those of two years of college training.

McDaniel, W. B. "Professorship in the Amenities of Life," *Educational Review*, LXV (January, 1923), 10–4.

McKenny, Chas. "Extension Work in Teachers Colleges," *National Education Association Addresses and Proceedings*, 1926, pp. 294–6.

McVey, F. L. "Administrative Relations in Colleges," *School and Society*, XXVIII (December 8, 1928), 705–9.
Discusses the relations between administrative officers, faculty, and trustees.

Mangun, V. L. *The American Normal School:* Its Rise and Development in Massachusetts. Baltimore: Warwick and York, 1928. Pp. 442.

Mansbridge, Albert. *The Older Universities of England: Oxford and Cambridge.* Boston: Houghton Mifflin Co., 1923. Pp. 308.

Marks, P. "Collegiate Clay," *Bookman*, LX (September, 1924), 13–4.

Marshall, J., Jr. "Perplexed College Teacher," *School and Society*, XIX (March 8, 1924), 287–8.

Mead, A. R. "Report of the Research Committee, the Supervisors of Student-Teaching," *Educational Administration and Supervision*, XV (May, 1929), 385–8.

Meader, J. J. *Normal School Education in Connecticut.* Teachers College Contributions to Education, No. 307. New York: Teachers College, Columbia University, 1928. Pp. 96.

Melvin, A. G. *The Professional Training of Teachers for the Ontario Public Schools.* Baltimore: Warwick and York, 1923. Pp. 212.

Meredith, A. B. "The Preparation of Teachers for Rural Schools," *Elementary School Journal*, XXIX (January, 1929), 344–50.
Discusses this problem with particular reference to Connecticut.

Miller, H. L. "The University of Wisconsin Plan for the Preparation of High-School Teachers," *Eighteenth Yearbook of the National Society for the Study of Education*, Part I, pp. 7–165. Bloomington, Illinois: Public School Publishing Co., 1919.

Miller, R. M. "Superstitions among College Students," *Sociology and Social Research*, XIII (March-April, 1929), 361–5.

Moehlman, A. B. *A Survey of the Needs of the Michigan State Normal Schools.* Detroit: State Board of Education, 1922. Pp. 250.

Morey, Lloyd. "Student Fees in State Universities and Colleges," *School and Society,* XXVIII (August 18, 1928), 185–92. Includes quotations from a number of writers on the subject and urges that fees remain moderate.

Morris, J. T. *Considerations in Establishing a Junior College.* Teachers College Contributions to Education, No. 343. New York: Teachers College, Columbia University, 1929. Pp. 64.

Mort, P. R. "State Participation in the Financing of Junior Colleges," *Teachers College Record,* XXX (May, 1929), 745–51.

Mosher, E. R. "The Rise and Organization of State Teachers Colleges." Unpublished Doctor's thesis, Harvard University, 1923.

Myer, W. E. "Civic Training in the College," *School and Society,* XVII (February 3, 1923), 119–23.

Myers, J. S. "Present Day College Problems," *Educational Review,* LXI (April, 1921), 320–33.

Newmark, David. "An Analysis of the Student Body of the Philadelphia Normal School," *Educational Administration and Supervision,* XI (September, 1925), 399–416.

Nicolson, F. W. "Report of the Commission on College Atheletics," *Association of American Colleges Bulletin,* XI (May, 1925), 183–208.

Noble, M. C. S. "Teacher Training in North Carolina," *Report of the State Educational Commission on the Public School System of North Carolina,* Part II, pp. 151–253. State Educational Commission, 1927.

Noffsinger, J. S. *A Program for Higher Education in the Church of the Brethren.* Teachers College Contributions to Education, No. 172. New York: Teachers College, Columbia University, 1925. Pp. 80.

Norlin, G. "Liberal College," *School and Society,* XXV (January 22, 1927), 85–91.

Noyer, R. W. "Financial Management and Control of Nebraska State Normal Schools." Unpublished Doctor's thesis, Iowa University, 1922.

O'Rear, F. B. "Bases for Standardizing and Accrediting Colleges," *Teachers College Record,* XXX (May, 1929), 788–93.

O'Rear, F. B. *The Duties of the Registrar.* Springfield, Missouri: F. B. O'Rear, 1925. Pp. 174.

O'Shea, M. V. "Is the Professional Training of Teachers Illiberal?" *Educational Review*, LX (June, 1920), 35–41.

Palmer, A. M. "Foreign Study Fellowships," *Association of American Colleges Bulletin*, XV (May, 1929), 260–70.

Palmer, A. M. "Summer Schools in Foreign Countries," *Association of American Colleges Bulletin*, XV (May, 1929), 271–5.

Parkinson, B. L. *Professional Preparation and Certification of White Elementary and Secondary Public-School Teachers in South Carolina.* Peabody Contributions to Education, No. 29. Nashville, Tennessee: George Peabody College for Teachers, 1926.

Parrish, W. M. "Technique in Higher Education," *Educational Review*, LXIX (May, 1925), 225–30.

Peik, W. E. "The Relative Professional Training Value to Beginning Secondary Teachers of Certain Types of Content in Education," *Educational Administration and Supervision*, XV (May, 1929), 321–33.

Phillips, F. M. *Per Capita Costs in Teacher-Training Institutions, 1927–28.* Bureau of Education Statistical Circular No. 11, January, 1929. Washington: Bureau of Education. Pp. 6.

Pollak, K. H. "Student Criticism of College Education," *New Republic*, XLVI (April 14, 1926), 254–5.

Price, E. E. "University Extension," *Higher Education in America*, Part I, chapter xii. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Price, R. R. *The Financial Support of State Universities.* Harvard Studies in Education, Vol. VI. Cambridge, Massachusetts: Harvard University Press, 1924. Pp. 206.

Pryor, H. C. *A Manual for Student Teachers.* New York: Macmillan Co., 1928. Pp. 174.

Purdom, J. L. "Teacher-Training through Directed Observation of Teaching, through Teaching under Faculty Supervision and through Teaching as an Apprentice," *Educational Administration and Supervision*, XIII (May, 1927), 317–21.

Rainey, H. P. "A Problem of Teachers Colleges," *Educational Administration and Supervision*, XI (December, 1925), 608–12.

Rainey, H. P. "A Problem of Training High School Teachers in Oregon," *Educational Administration and Supervision*, XII (February, 1926), 110–3.

Reed, E. T. "Development of American College Campus," *American Educational Digest*, XLVI (June, 1927), 463–8.

Reese, W. P. *Personality and Success in Teaching.* Boston: Richard G. Badger, 1928. Pp. xii + 146.

Reeves, F. W. "The Cost of Education in Liberal Arts Colleges," *North Central Association Quarterly*, II (December, 1927), 248–61.

Reeves, F. W., and Russell, J. D. *College Organization and Administration*, chapters iii, iv, x–xvi. Indianapolis, Indiana: Board of Education Disciples of Christ, 1929.
Includes information on control and organization, physical plant and equipment, accounting and budgetary procedure, costs, financial resources, sources of revenue, scholarships and loan funds, and economic factors affecting the support of institutions of higher learning.

Reid, O. L. "Educational Fads Considered as Fundamental," *National Education Association Addresses and Proceedings*, 1924, pp. 849–54.

Richards, F. L. "Student Participation in Government," *American Association of Teachers Colleges Yearbook*, 1923, pp. 85–91.

Roberts, A. C. "Arts and Artistry in Teacher Training," *School and Society*, XXVII (May 19, 1928), 579–84.
Inaugural address of the president of the San Francisco State Teachers College, March 30, 1928.

Robinson, F. B. "Installation Address of the President of the College of the City of New York," *School and Society*, XXVII (May 26, 1928), 609–12.

Robinson, F. B. "President's Address Association of Urban Universities, 1928," *School and Society*, XXIX (February 23, 1929), 237–43.
Emphasizes the development and possibilities for service of urban universities.

Rochefort, Anne. "Functional Organization and Treatment of Student-Teaching Activities," *Educational Administration and Supervision*, XV (May, 1929), 383–4.

Rogers, A. L. "What Women in Colleges of Liberal Arts Specialize in," *School and Society*, XX (November 29, 1924), 700–3.

Root, Rosamond. "The Outcomes of Supervised Student Teaching," *Educational Administration and Supervision*, XII (April, 1926), 251–9.

Rosenlof, G. W. *Library Facilities of Teacher Training Institutions.* Teachers College Contributions to Education, No.

347. New York: Teachers College, Columbia University, 1929. Pp. 160.

Rosier, J. "Ten Points in Building a Teachers College," *American Association of Teachers Colleges Yearbook*, 1925, pp. 23–5.

Ryan, W. C. "The Preparation of Teachers for Dealing with Behavior Problem Children," *School and Society*, XXVIII (August 18, 1928), 208–15.
Based on a canvass of the practices in teacher-training institutions.

Scheidemann, Norma V. "An Experiment in Teaching Psychology," *Journal of Applied Psychology*, XIII (April, 1929), 188–91.

Selke, Erich. "A General Policy Concerning Demonstration Teaching in City Schools Used for Teacher Training Purposes," *Education*, XLIX (April, 1929), 489–98.
Based on replies to a questionnaire received from seventy-six schools in thirty-one states.

Shaw, W. B. "The Alumni," *Higher Education in America*, Part II, chapter x. Edited by R. A. Kent. Boston: Ginn and Co., (in preparation).

Sherrod, C. C. *The Administration of State Teachers Colleges through Faculty Committees.* Peabody Contributions to Education, No. 15. Nashville, Tennessee: George Peabody College for Teachers, 1924.

Showerman, G. "Intellect and the Undergraduate," *School and Society*, XIII (February 26, 1921), 241–51.

Siegel, May H. "The Reform of Teacher-Training in Vienna," *Educational Administration and Supervision*, XIV (November, 1928), 543–54.

Sims, V. M. "The Status of Hazing in American Colleges," *School and Society*, XXIX (February 9, 1929), 201–4.
Includes a canvass of conditions by the questionnaire method in fifty-six schools.

Smith, J. M. *The Training of High School Teachers in Louisiana.* Teachers College Contributions to Education, No. 247. New York: Teachers College, Columbia University, 1926. Pp. 102.

Smith, Q. M. "Do Graduates of Teachers Colleges Return Service to the Communities from Which They Came?" *Educational Administration and Supervision*, XIV (March, 1928), 189–93.

Presents data to show that graduates of Tennessee, Illinois, and Alabama institutions serve what may be considered local communities.

Snyder, Agnes. *The Value of Certain Measurements in the Training of Teachers Experimentally Determined.* Johns Hopkins University Studies in Education, No. 9. Baltimore: Johns Hopkins Press, 1928. Pp. 146.

Spaulding, F. E. "Passing of Great College Teachers," *Forum*, LXXV (March, 1926), 446–7.

Sperle, D. Henryetta. "Some Difficulties Experienced by First-Year Students in Teacher-Training Institutions," *Teachers College Record*, XXIX (April, 1928), 618–27.

Based on a canvass of faculty and student opinion.

Steele, R. M. *A Study of Teacher Training in Vermont.* Teachers College Contributions to Education, No. 243. New York: Teachers College, Columbia University, 1926. Pp. 112.

Stevens, E. B., and Elliott, E. C. *Unit Costs in Higher Education.* Report of the Educational Finance Inquiry Commission, Vol. XIII. New York: Macmillan Co., 1924. Pp. 212.

Suhrie, A. L. "The Present Status and Future Possibilities of the City Teachers College," Yearbook Number XII of the *National Society of College Teachers of Education*, pp. 5–19. Chicago: University of Chicago Press, 1923.

Suzzalo, H. "Teaching as a Profession," *Educational Record*, VII (April, 1926), 63–72.

Tansil, Rebecca C. "The Present Status of the Registrar's Office in the Small Accredited Liberal Arts College of the Southern States," *Peabody Journal of Education*, V (May, 1928), 333–8.

Based on a questionnaire study of thirty-two institutions.

Tape, H. A. "New Training School Buildings and Equipment of the Michigan State Normal College, Ypsilanti, Michigan," *Educational Administration and Supervision*, XIV (May, 1928), 325–32.

Describes the facilities for training city and rural teachers.

Tarbell, R. W. "Interviewing the Prospective Teacher," *American School Board Journal*, LXXI (July, 1925), 49–50.

Taylor, J. S. "Development or Utility, Which?" *School and Society*, XXIII (April 24, 1926), 509–12.

Taylor, W. S. *The Development of the Professional Education of Teachers in Pennsylvania.* Philadelphia: J. B. Lippincott Co., 1924. Pp. 294.

Thurber, C. H. *Fiscal Support of State Universities and State Colleges.* Bureau of Education Bulletin No. 28, 1924. Washington: Bureau of Education. Pp. 164.
Includes a bibliography which covers the period, 1884–1922.

Thwing, C. F. *The American Colleges and Universities in the Great War*, 1914–1919: A History. New York: Macmillan Co., 1920. Pp. 276.

Thwing, C. F. *The American and German University:* One Hundred Years of History. New York: Macmillan Co., 1928. Pp. 238.

Thwing, C. F. *Higher Education in Australia and New Zealand.* Bureau of Education Bulletin No. 25, 1922. Washington: Bureau of Education. Pp. 44.

Toothaker, O. H. "Basic Principles in Teacher Placement," *Education*, XLVII (April, 1927), 472–82.

Towery, J. G. "Attitude of College Students toward Teaching," *School Review*, XXVIII (May, 1920), 379–82.

Valentine, P. F. "Theories in Teacher-Training Practice in the Teachers' Colleges of California." Unpublished Doctor's thesis, University of California, 1927.

Van Doren, M. "College of the Few," *New Republic*, XXXVIII (April 16, 1924), 203–5.

Viteles, M. S. "The Influence of Age of Pubescence upon the Physical and Mental Status of Normal School Students," *Journal of Educational Psychology*, XX (May, 1929), 360–8.

Waller, O. L. "How Shall We Measure Scholastic Attainment?" *School and Society*, XXII (December 26, 1925), 818–20.

Waples, Douglas. "Problem Exercises for Student-Teachers of Secondary Subjects," *Educational Administration and Supervision*, XV (May, 1929), 367–72.

Wellington, Elizabeth E. "Colleges for Women Move Ahead," *Progressive Education*, VI (January-March, 1929), 28–34.

Wellons, R. D. *The Organization Set Up for the Control of Mission Union Higher Educational Institutions.* Doctor's thesis, Teachers College, Columbia University, 1927. Published by the author.

West, P. V. "What Do College Students Know?" *Atlantic Monthly*, CXXVII (March, 1921), 391–3.

West, R. M., and Koos, L. V. "The Freshman Class in 1940," *National Education Association Addresses and Proceedings*, 1921, pp. 235–6.

Whipple, G. M., and Miller, H. L. "The Professional Preparation of High-School Teachers," *Eighteenth Yearbook of the National Society for the Study of Education*, Part I. Bloomington, Illinois: Public School Publishing Co., 1919. Pp. 372.

White, A. C. "Culture for Unwilling Students," *Forum*, LXXI (January, 1924), 77–82.

Whitney, F. L. *The Intelligence, Preparation, and Teaching Skill of State Normal School Graduates in the United States.* Minneapolis, Minnesota: University of Minnesota, 1923.

Whitney, F. L. "The Teacher-Training Service of State Teachers Colleges and State Universities," *Educational Administration and Supervision*, XIV (October, 1928), 485–9.
A comparative study of the types of teachers which institutions advertise themselves as preparing and the number of such positions actually filled by the schools in question.

Wilbur, R. L. "Remunerative Extra University Activities," *School and Society*, XI (January 24, 1920), 91–7.

Wilde, A. H. "Opportunity for University Co-operation in the Training of Teachers," *Education*, XL (May, 1920), 551–8.

Wilkins, E. H. "Faculty-Student Cooperation," *Association of American Colleges Bulletin*, XII (May, 1926), 222–30.

Williams, A. J. "A Comparison of Teacher-Training Centers with Schools Having a Population of Like Ability," *Educational Administration and Supervision*, XV (March, 1929), 184–9.

Williams, E. I. F. "Demonstration Teaching and Observation in the Teacher Training Institutions of the United States," *Yearbook Number XI of the National Society of College Teachers of Education*, pp. 103–21. Chicago: University of Chicago Press, 1922.

Williams, W. T. B. *Report on Negro Universities and Colleges.* Trustees of the John F. Slater Fund, Occasional Papers, No. 21. Charlottesville, Virginia, 1922. Pp. 28.

Wilson, L. M. *"Training Departments in the State Normal Schools in the United States.* Eastern Illinois State Normal School Bulletin, No. 66. Charleston, Illinois, 1920. Pp. 116.

Wirt, L. E. "Student Leadership," *National Education Association Addresses and Proceedings*, 1922, pp. 783–7.

Yeuell, G. H. "The Special Work and the Office of the State Director of Teacher Training," *Phi Delta Kappan*, XI (October, 1928), 75–7.
Based on data secured from eleven states.

Zook, G. F. "The Emergency in Higher Education," *National Education Association Addresses and Proceedings*, 1921, pp. 231–5.

Zook, G. F. *Report on the Higher Educational Institutions of Arkansas.* Bureau of Education Bulletin No. 7, 1922. Washington: Bureau of Education. Pp. 20.

Zook, G. F. "The Triennial Reports of Accredited Higher Institutions," *North Central Association Quarterly*, III (March, 1929), 468–536.

Zook, G. F., and Others. *Survey of Higher Education in Cleveland.* Cleveland, Ohio: Cleveland Foundation Committee, 1925. Pp. xvi + 488.

"As Students See It," *Nation*, CXIX (August 13, 1924), 156–7.

"Ban on Teaching, by an Instructor," *Scribner's Magazine*, LXXIII (April, 1923), 426–33.

Carnegie Foundation for the Advancement of Teaching, *The Professional Preparation of Teachers for American Public Schools.* New York: Carnegie Foundation for the Advancement of Teaching, 1920. Pp. xx + 476.

"Colleges and Common-Sense," *Scientific American*, CXXVII (August, 1922), 86–7.

"College Discipline," *School and Society*, XII (July 24, 1920), 82–3.

"College Loafer," *Current Opinion*, LXXI (December, 1921), 777–8.

"College Students Preparing to Teach," *School and Society*, XI (January 5, 1920), 684–5.

"College Undergraduates," *Nation*, CXXI (November 18, 1925), 564–5.

"Continuation Training of Teachers in Service at a State Normal School," *Elementary School Journal*, XXIX (October, 1928), 83–6.

Includes a list of questions concerning which teachers in the field desired information, grouped under the various elementary-school subjects.

Extra-Collegiate Intellectual Service: Status of Faculties in University Government. Bulletin of the American Association of University Professors, Vol. X, No. 5. Easton, Pennsylvania, 1924. Pp. 108.

The American School and University: A Yearbook Devoted to the Design, Construction, Equipment, Utilization, and Maintenance of Educational Buildings and Grounds, 1928–1929.

New York: American School Publishing Corporation, 1928. Pp. 382.

The Growth of the University in the Next Quarter Century. Bulletin of the University of Minnesota, Vol. XXIII, No. 25. Minneapolis, Minnesota: University of Minnesota, 1920. Pp. 50.

"The Trojan Air College," *School and Society*, XXIX (March 30, 1929), 411.

Describes instruction by radio under the supervision of the University of Southern California.

"Impoverished College Teaching," *Literary Digest*, LXIX (April 30, 1921), 27.

"Is a Scholar an Employee?" *New Republic*, XLII (March 11, 1925), 57–8.

"Keys," *Scribner's Magazine*, LXXIV (August, 1923), 248–9.

"The Organization of College Departments of Education," *Yearbook Number XI of the National Society of College Teachers of Education*, pp. 65–100. Chicago: University of Chicago Press, 1922.

"Professors, Politeness First," *Independent*, CVIII (April 1, 1922), 324.

"Schools of Education in State Universities," *School and Society*, XXII (October 17, 1925), 489–90.

"Suppression of Student Reading in Japan," *School and Society*, XXIV (August 28, 1926), 258–9.

"Survey of the District of Columbia Normal Schools," *School and Society*, XXV (January 1, 1927), 17–8.

"Systematic Study of the Problems of Higher Education," *School Review*, XXXI (November, 1923), 641–3.

"Well-Balanced Undergraduate," *School and Society*, XVIII (August 18, 1923), 205–6.

"What College Students Should Know," *New Republic*, XLVII (April 14, 1926), 251–4.

"What the Undergraduate Wants," *New Republic*, XXXIX (July 30, 1924), 258–60.

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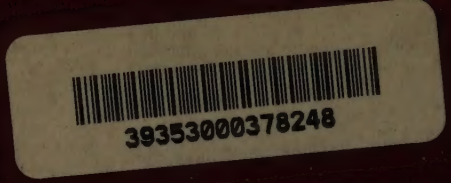
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